

THE FAR EASTERN REVIEW

COMMERCE • ENGINEERING • FINANCE

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The Hon. WILLIAM HOWARD TAFT,
*President Elect of the United States of America. From Photo-
graph Taken on Board The S. S. Minnesota while
En Route to the Philippines*

THE FAR EASTERN REVIEW

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CONTENTS

	PAGE.
Death of the Empress Dowager and Emperor of China.....	192
The Presidential Election.....	192
The Shipping Conferences.....	192
China and Currency Reform.....	193
Exaggeration Abroad of Cholera Conditions in Manila.....	194
New Grand Hotel at Yokohama.....	196
Irkutsk-Lena Railway.....	197
Philippine General Hospital.....	198
Sir Allen Perry's Report on Visit to Medical Institutions in the Far East.....	201
Brighton Malcolm & Co., Limited.....	206
Rubber Growing in the Federated Malay States.....	206
Harbor Improvements in Japanese Commercial Ports.....	208
Japan's Flour and Wheat Import.....	209
New Locomotive for the Peking-Hankow Railway.....	210
Obituary.....	210
Personal.....	211
Reviews.....	212
New Port of Miike.....	213
Substitute for Wood Decks.....	213
Headwaters Mining Company.....	213
Helvie Wins Suit.....	213
Far Eastern Company Reports.....	214
Tin Dredging in Tongkah Harbor.....	215
Mine Reports.....	215
New Manila Hardware and Machinery House.....	216
Far Eastern Engineering, Construction, Commercial and Financial News.....	216
F. M. S. Annual Report.....	218
Philippine Forests Deteriorating.....	218
London Metal Market.....	219
New York Metal Market.....	219
Hemp Statistics.....	219
Far Eastern Stock Quotations.....	220

DEATH OF THE EMPEROR OF CHINA AND THE EMPRESS DOWAGER

The official announcement from Peking that His Majesty, the Emperor of China, and the Empress Dowager, had passed away, and that Prince Pu Yi, the two-year old son of Prince Shun, had been proclaimed Emperor under the regency of his father, has given rise to much speculation as to the outcome of the situation involved. Confidence, however, is reposed in Viceroy Yuan Shi Kai, the most loyal and influential supporter of the dynasty and who has a well trained army behind him. Notwithstanding the many rumors received at the hour of writing to the effect that the reactionary leaders are unusually active and that confidence in the government is shaken in financial circles, there is reason to believe that much of this is, as usual, exaggerated, and that the present regency will receive the necessary loyal support to maintain a stable government, and that the policy of the late Dowager will continue in so far as it refers to promised reforms consistent with conditions. Whatever differences may exist among the different factions in Peking will, no doubt, continue, but we doubt if they shall prove so serious as to disrupt or overthrow the present dynasty.

Her Majesty Tzu-Hsi, the Empress Dowager of China, was born at Peking in 1834, the daughter of a government official whose name does not appear. In 1851 she became a secondary wife of Emperor Hienfung and, upon the birth of a son, was raised to the rank of Empress. After the death of the Emperor she reigned as joint regent with the first wife until the death of the latter in 1880, and from that time until 1887 she ruled as sole Regent. Emperor Kuang-hsu came to the throne in the latter year, but the Empress Dowager, while retired from the position of Regent, did not wholly withdraw her influence from the direction of national affairs, and in 1898 by a *coup d'état* practically deposed the Emperor on account of his leanings toward radical reform, and up to the time of her death, administered the government with unusual firmness. The late Empress Dowager was a woman of strong personality, and while the mystery of her secluded life as the ruler of a great nation gave rise to many rumors that characterized her as cruel and selfishly ambitious, there are many evidences of her love of country and of her desire to ameliorate the conditions of her people consistent with their capacity to assimilate reform. That she feared for the integrity of the country, should Emperor Kuang-hsu with his radical ideas mount the throne, is well evidenced by the manner in which she continued in control at Peking until her passing. While it was hinted that she encouraged the Boxers, there has never been any proof that she was in sympathy with them, but she may have succeeded in turning a movement that might have endangered the throne, to a demonstration directed against foreigners. History will record the reign of Tzu-Hsi as that of the most remarkable woman of her time, and should radicalism triumph as a result of her passing, her service to her country will then be more fully appreciated.

His Majesty, Kuang-Hsu, Emperor of China, was the son of Prince Ch'un; was born in 1872 and proclaimed Emperor of China upon the death of his cousin, the Emperor T'ung-chih. He nominally assumed charge of the government in 1887 upon his majority. Deposed by the Empress Dowager in 1898 for showing a tendency to favor radical reform, from that date up until the hour of his death he had little if any voice in the government. He was not considered a strong character though well-intentioned, and from all that can be learned was far from fitted to guide the nation at a time of severe stress when only a strong and forceful mind would serve to preserve it from foes within and without.

THE PRESIDENTIAL ELECTION

The election of W. H. Taft to the office of president of the United States may be taken as an indication that Bryan may now be eliminated from all future presidential contests.

Whatever chances the democratic party may have had to elect a candidate in the recent contest, the result at the polls demonstrated that there was no united effort on the part of the party leaders to make the Bryan campaign other than a failure. Indeed, it may be safely concluded that Bryan's nomination was the initiation of a general conspiracy to eliminate him from the party councils; his defeat at the polls, its consummation. If the defeat of the party at the polls serves no other purpose than the elimination of Bryan, the democrats would seem to have been well served.

The election of Taft, however, calls an American to the White House who has had more opportunity than any other American public man, to familiarize himself with conditions in the Far East. He, therefore, assumes the responsibilities of chief executive better equipped than any of his predecessors, in this regard. In a measure he has had that training, which at this time, should serve him with great advantage in shaping the foreign policy of the United States.

A friend of China; the peacemaker between Japan and America and a student of Oriental affairs generally, it may well be expected that his term as president is to be marked by greater American trade expansion and that the zone of American interest in Eastern Asia will be further extended under his encouragement.

It is true that the policy of the former administrations in the Philippines, which Mr. Taft carried out, has not met with the success anticipated by those at home who were ignorant of the true conditions in that archipelago, and of whom it might be said, still prefer to remain so, but there is a well defined feeling among foreigners and the better class of Filipinos that after March 4th, 1909, Mr. Taft will inaugurate his own policy, based on his experience in the islands, and one that will eliminate any features of the McKinley policy, that have not been found applicable. It is true Mr. Taft has made no promises that bind him to a change; he has not even expressed any disappointment as to the success of the policy inaugurated by his predecessors, but those on the ground and who are in a position to judge, just in what regard the former administrations have made mistakes of a serious character, do not believe that he will perpetuate them when he assumes his new duties.

Americans in the Far East, however, while not in accord with Taft's general policy, may at least congratulate themselves that, at last, the people of the United States have chosen for their president one who realizes that America has some scattered interests in Eastern Asia and that for this reason some attention will be paid by his administration in the encouragement of the pioneers of American trade, where hitherto they have been neglected and ignored. It will be gratifying at least to know that the President of the United States has personal knowledge that American interests extend beyond the borders of Western Hemisphere.

THE SHIPPING CONFERENCE

The report of the Registrar of Imports and Exports at Singapore, as presented in the annual report of the Colonial Secretary on the Straits Settlements, throws some interesting light on the operations of the Shipping Rings. It contains the information that in 1907, the freight charged by the Straits Homeward and New York Shipping Conference to points in Europe and America was £164,100 in excess over the amounts charged for five years prior to the establishment of these conferences. The volume involved was 386,200 tons and the figures follow:

Freights charged thereon.....	£567,500
Total freights that would have been charged on the same prior to the conference.....	£403,400
Difference.....	£164,100
Secret rebate of 5% on all freights pooled, paid to certain specially favored firms.....	£28,375

The Sub-Committee of the Singapore Chamber of Commerce adds the additional information that in the second half of the decade previous to the establishment of the Conferences, there was an increase in the volume of shipping over the first half of the decade and that in the second half of the decade after the Conferences were inaugurated, there was a net loss of 238,512 tons compared with the first five years after the organization. This, according to the Chamber, indicated a diversion of trade from Singapore as a direct result of the operations of the Conferences.

The *Singapore Free Press* has been active in the defense of the trade of Singapore and is leading a campaign against the Conferences, in which it has general support. It has devoted many columns to a complete and comprehensive review of the Colonial Secretary's Report, including the report of the Registrar of Imports and Exports and that of the Sub-Committee of the Chamber of Commerce and editorially urges organization among the commercial community of Singapore to assist the government in remedying what it terms a serious evil with a view to placing all traders on an equal footing as regards common carriers' rates. *The Free Press* says:

"Once more, and in the most convincing manner, is brought before the people of this Colony the effect of the operations of the Shipping Ring and its deadly influence on our trade. In another column we publish extracts from the annual report on the Straits Settlements by the Colonial Secretary; and following them, the matured opinion of a private individual well-qualified to express an opinion on this subject. That they have been independently arrived at, and only by a coincidence are ready for publication on the same day, the more strongly emphasises the conviction of the unbiased thinker, that unless the Shipping Conference is broken, this Colony is in imminent danger of losing the bulk of its trade, through the favor shown to competitive ports; that her coasting trade is going, almost gone; that correspondingly the industrial trade of the port languishes; and that quickly and surely, the Briton is being pushed out of the position of preeminence in a British Colony, in favor of other nations, and that by a policy acquiesced in and supported by a few favored Britishers. The figures given in the Report of the Colony give as an under-estimate the loss of £192,475 to the Colony in extra freights paid by the forcing up policy of the Conference in its monopoly of freight carriers. Year by year, 25,000 tons of cargo are diverted from Britain and British Trade by the operations of the Conference. Every year the Conference diverts to a few firms, the majority of them foreign, a secret rebate of £28,375. These are the salient features of the report. Our friend in trade emphasises the loss to the industry and trade of the port by the shutting out of tramp steamers and sailing vessels. He also points out the effect on the export trade of the withdrawal of the opportunities of cheap freight that formerly existed—the Conference's "sur-tax" on the trade of the Colony. Never before have the evils been more lucidly and definitely pointed out. The impeachment of the Conference, and specially its secret rebate system, is complete.

"It remains to see the impeachment through. The Royal Commission on Shipping Rings may condemn the rebate system altogether, but we have doubts that it will do so. In any case long delay is sure to follow before legislation can come into effect. But the secret rebate of 5 per cent is an added evil and injustice, and whatever be the finding of the Royal Commission on the subject of Rings and Rebates in general, it cannot eliminate the fact that we alone in this Colony have imposed on our trade this additional charge. The Secret Rebate is peculiar to this Colony. It is peculiarly obnoxious in that it favors a few to the detriment of the many, and that among those few, the majority are alien traders. As traders, there can be nothing against them, with a fair field and no favor. But as having inaugurated and supported a monopoly that places the British trader in an unfair position,

and adversely affects British Trade in general and the trade of this Colony in particular, it surely becomes a duty of the Government to take action to eliminate at least the secret rebate evil. As we have said, the practice of special preference to an arbitrarily selected few is peculiar to this Colony. It is a hardship and a handicap on those merchants who are not among the favored few. This is admitted in the report of the sub-committee of the Chamber of Commerce (July 10th 1907) which committee had on it some of the same specially favored few. The dictators of the policy are largely foreign ship-owning companies. Among the privileged few who share in the secret rebate are foreign firms, large and important participants, who in their daily business transactions take into account this preferential rebate and who are thereby given an advantage over their British neighbors. Competition is keen enough under all circumstances, but surely no British merchant should be mulcted in an undue rate of freight, five per cent of which goes secretly to subsidise his foreign competitor. He has a right to ask his Government to take such steps as will place its own British merchants, in common justice, on level terms with his competitors. The Britisher has an indisputable right to demand this, and the Government cannot in fairness escape its duty, or delay or mark time any longer. Whether the Imperial Commission recommends legislation or not against rebates in general, there can be no question as to the course that should be pursued in this Colony. Here there is a wrong, peculiar to this Colony, and it is the province of the Government to remedy that wrong. From the fact that there is now published in the official report of the Colony such figures as are quoted elsewhere; from the language used, and the trend of the arguments, we believe the Government is not only aware of the evil, but is willing to consider a remedy for it. But it is absolutely necessary that those of the community who are honest enough to admit the strength of the arguments against the Secret Rebate; and who are patriotic enough to desire to keep the Colony a prosperous asset of the Empire, must come to the assistance of Government, and formulate such a body of reasoned public opinion as will strengthen the hands of the legislature when it comes to deal with a pressing and deadly evil such as this."

CHINA AND CURRENCY REFORM

For some months a renewal of the discussion anent the feasibility of introducing the gold standard of currency values throughout the empire has engaged much attention and it would seem that there is a growing interest in financial and commercial circles in the movement designed to remedy the present fluctuating character by such measures as would slowly and surely educate the Chinese to the advantages of some stable unit of value.

In this connection the announcement is made by Chinese papers that in addition to his mission to convey the thanks of the Chinese Government to the American people, for the consideration shown China in the relinquishment of the Boxer indemnity by Washington, His Excellency Tong Shao Yi will investigate the workings of the gold standard system not only in America but throughout Europe and that upon his return some action will be taken upon his recommendations. If this be true, it is not improbable that some definite action, consistent with the conditions throughout the empire, will result and by such measures as will receive the moral support of controlling sentiment in the communities affected.

But the gold standard is not endorsed generally by the Chinese press. For instance *Chinese Public Opinion* is of the opinion that it would be impossible to change China's currency from one on a "cash" basis to one on a gold basis. That paper contends that the zone of influence of the foreign manufacturing interests is not considerable and that China does not need an import trade to sustain her vitality. It further refers to the unsuccessful attempt of Professor Jenks to impress China with the advisability of introducing the

gold standard in the empire. In this reference the *Opinion* says:

"Though his arguments, from his point of view, were absolutely sound we claim that he had not a sufficient knowledge or understanding of the economic conditions of China, which are totally different from anything which his undoubtedly great experience in America has presumably presented to his intelligence.

"Foreigners are very fond of asserting that China is a topsy-turvy country. This of course is merely a superficial generality. It is, however, an undoubted fact that we differ in many essentials from European countries. One of our greatest variations from what the Westerner considers the 'normal' is the dilatoriness of our internal communications. It may not be a thing to be proud of, but it is a fact that the details of our war with Japan in 1894 did not penetrate to certain parts of our country until 1904, or when improved methods of communication allowed rumors of the Russo-Japanese War to percolate through the country and become inextricably confused, in certain insignificant village communities, with the struggle of a decade earlier.

"The movement of trade, especially in imported goods from foreign land, is no more speedy than that of information. The zone affected by Manchester, Birmingham, Chicago, and other producing towns of Europe and America is absurdly subscribed. The Customs returns alone will tell anyone who cares to bring common sense and mathematical calculation to bear upon the subject that, even if used solely for the purpose of making clothing, the quantity of piece goods imported annually into this country would not prevent half the population from going absolutely naked. This, it must not be forgotten, includes several thousand of bales which lie, sometimes for as long as three years, as a surfeit stock in godown. The imported piece goods are, however, not only used for clothing purposes. Curtains, bed sets, quilt covers, sails, pillows, sacks, rice bags, flags and decorations all eat up many yards of the imported produce mostly, however, in the near vicinity of the treaty ports.

"Even in a town like Chin Chow on the I. C. Railways, or even Hsinmuntun in the midst of the great peacegoods consuming district of Manchuria and at the rail-head, native cloth is worn by the majority of the poorer people and is considerably cheaper in initial cost than the products of Manchester or America. We purchased a square foot of native cloth for just two thirds of the equivalent price of the Manchester product. The cloth is coarser and certainly not so closely woven, but it serves the required purpose and its price is not affected by any fluctuation of sterling exchange.

"China does not need an import trade to sustain her vitality. She is a country which if properly developed could be entirely independent of the rest of the world. She could produce everything that she needs and would still have a surplus to barter away to less favored countries than herself.

"Until China produces her own gold, and even exports the surplus thereof, she will be far better off as a self contained silver and copper using country. This does not, by any means, imply that a unification and a standardization of the currency should not be attempted; but we maintain that the economic conditions of the country are not, at present, such as to make a 'gold standard' beneficial to the majority of the populace."

The above represents the consensus of conservative Chinese opinion on the subject, and while foreigners feel themselves greatly confused and discouraged in attempting to familiarize themselves with the different standards of value met with in every other district, it must be remembered that each section of the empire has conformed for such a long period to its adopted system of barter, that it would be impossible within many decades to educate the heterogeneous population to a sense of appreciation of any one standard of value throughout the country.

Recently the Commissioner of Customs at Tientsin issued a notification, rescinding a former notice which fixed the ratio between

Hongping and Haikwan taels at 107 to 100, and provided a change in the ratio at which the former might be received in payment of customs duties, at Hongping taels 105 for Haikwan taels, 100. The publication of this circular brought forth the following comment from a correspondent in the *Celestial Empire*:

"This simply means that the dues of customs and river accesses which have to be paid on Imports and Exports, upon any and all entries made at the Imperial Maritime Customs at Tientsin, will be as heretofore. Such dues will be collected by the Haikwan Bank of the Tientsin Customs, on the conversion of 105 Tientsin Taels for each 100 Haikwan Taels. It was only in spring of this year that a proclamation issued by His Excellency the Tientsin Customs Taotai suddenly raised the conversion rate to 107 Tientsin Taels for each 100 Haikwan Taels. The reason as given in the proclamation was justified and based on the retrogression of the Tientsin sycee fineness. This was found when converting the Tientsin Sycee by the Customs Banker into the current Kung Fa or other currencies circulating.

"In dealing with the problem caused by so many silver standards as are current all over China, every well-wisher of China would like to see established a uniform currency all over the Empire. But those who have a deep insight into this question cannot deny that this is one of the problems which in these days of astonishing rise and reforms in the Celestial Empire is intrinsically the hardest to be tackled. With regard to a Foreign adviser, one who has knowledge of Chinese and the Chinese monetary puzzle, the question is where can a Foreigner be found, who first of all is acquainted with all the standards as ruling all over this great country, and secondly has such Foreigner a true knowledge of Chinese economics, or will he be able to understand books written in the Chinese language out of which he might get sufficient data and information, in order to be prepared to tackle a question of such magnitude as the transformation of the present multiplicity of Chinese currency? There has been going on in recent times quite a lively discussion about establishing a Gold Standard in China. This discussion, under similar circumstances, as the Silver and Gold question might have involved greater attention in the U.S.A., where it would have meant a new issue in partisan politics; but here it has even in these times of business standstill, hardly shaken up any large number of the many mercantile interests which are involved by it.

"Very few have much knowledge of what great varieties of Chinese currency exist in China. Again when the discussion of this question was going on, the question was asked, 'Has China a 'Cash Currency'?' It is true 'Cash' is the uniform medium of monetary exchange in China, when speaking of small transactions, as well as from the point of view of the wage earner. But this means laborers and generally only the smaller transactions. But when it comes to Government transactions and to mercantile affairs in a larger sense, the Central Government has its Tael of the Department of Finance; each Governor and Viceroy has its own standard which rules between the merchants (Chinese) and the officials. Everywhere there pass varied standards of sycee (Silver) based on a variety of touch (Fineness) and of weight (scale). One must never mix a 'Scale' and the 'Touch' when going into a question of comparison. In this connection we only refer to what is so often heard in Tientsin when speaking of the Tientsin tael. In such instances the Tientsin Tael is shortened and expressed by 'Hangping currency' by which is meant the 'Hang Ping' or foreign firms standard scale, and the 'Hwa Pao' as the currency or the so-called Tientsin 'touch.' Just as there is a variety of numerous touches or finesses in China, so there is as great variety of scales as for instance there is between Tientsin and Shanghai.

"1,000 Hang Ping, or Tientsin scale, are equal to 1,014 Chow Ping. Chow Ping means the commercial scale of Shanghai, as used in transactions in and between foreign dealings. Of course this allows comparisons, but foreigners can hardly take advantage of the variety of

the scales; such advantage rests only with a few of the natives who are more enlightened on such purely Chinese subjects.

"Such are some of the features of a currency which no doubt in the not too distant time will be entirely changed and reformed, as is the true desire of the Chinese Government and its high officials. One step in the right direction has already been carried out by bringing into circulation copper coins which are now universally accepted all over the Empire and which are based on the nominal value of ten copper cash. These copper coins have no longer a square hole in the centre. As the present issue of coins, however, is expressed in too high a value for the masses of laborers and other classes, the Central Government is on the point of bringing a new brass coin into circulation of very small dimension, which coin shall have the value of one-tenth of one copper coin. This will be the new cash, such as is needed for the masses in buying rice and other foodstuffs of very low intrinsic value.

"In another direction the Chinese Government has also carried out a monetary reform, which as yet is not a stable issue. This reform refers to the Silver Dollar coins and to the small silver coin denominations of 5, 10, and 20 cents, partly also of half dollars.

"So far as the small denominations are concerned, they are already universally accepted in the Chinese Treaty Ports. However, they are at a discount when exchanged as against silver dollars. This discount varies according to market rates and is 1 Silver Dollar equal to about \$1.10 of small silver coins. In taking the silver Dollar as issued by the Mints of North China, there is a great disadvantage when bringing these coins for instance to Shanghai, as they are only taken here under a discount up to 7 and even at times 10 per cent.

"The foregoing as relating to the copper coins and silver coin denominations as turned out by the Imperial Government Mints, refers to the new state of affairs relative to the reform of the monetary system in China. In its fundamental system this reform has received an impetus by the establishment of the Provincial Government Mint in Canton at the end of the eighties. Up to the end of last century the provincial Governments have established quite a number of provincial mints. When the Central Government in quite recent times put its control over all the Provincial Mints and finding too large a circulation of copper coins in vogue, this coinage has been stopped for the present. But no doubt these mints will be entrusted to carry out the new monetary medium which China is going to bring into circulation and which at present can only be put on a silver basis, considering the enormous amount of silver circulating all over the empire and the continued want of silver for industrial, ornamental as well as monetary purposes."

The *Peking and Tientsin Times* recently opened its columns to a discussion of the subject with the result that much of the paper's space has been engaged by interested correspondents in airing their respective views. Other publications have also taken it up and there is reason to believe that much good will come out of it. One pleasing feature of the agitation is the interest shown by the officials at Peking, who after all are in the best position to decide how best to bring about the needed reforms and just how rapidly they may be introduced so as to be properly assimilated. The *Peking and Tientsin Times* has been a strong advocate of currency reform for years and in inaugurating a campaign of open discussion on the subject it makes the following interesting comment:

"It is many years since we first advocated the settlement of a fixed par of exchange between the silver tael and gold. It cannot be that the grave obstacle placed in the way of trade by the instability of China's gold exchanges has not received the careful attention of the high Chinese Authorities. We know in fact that for several years the question has been discussed almost ad nauseam by China's highest officials. That they have not yet come to a decision, in no way prevents us from believing that the Chinese Government will, in a few years, follow the example of nearly all

other countries in the world in adopting a gold standard.

"Since we first wrote on the subject, Siam, the Straits Settlements, and the Philippines have done what the Chinese Government still hesitates to do, and that is, adopted a fixed ratio between gold and silver. When we consider the fall in exchange from 3-2 to 2-5 a decline of some 25%, we realize the grave disadvantages with which international trade in this country has to contend.

"We have referred in recent issue to official prohibitions against gambling. But what prohibitions can prevent the gambling that every dealer in international trade has to undertake whether he desires it or no? A Chinese importer purchases goods from a gold-using country at a cost of say 8 taels to £1 sterling. In a week he may find competitors bringing the identical goods for 7 taels a pound, or some 13% cheaper than he was able to purchase them at a week ago. This is not all, or the whole extent of the injury. His new competitor may find in another week or two that other rivals have been able to purchase the same goods for 6 taels a pound. The inevitable result is that either the original purchaser loses heavily, or the more recent buyer maintains the price to the disadvantage of the general public, who should be entitled to purchase their goods at the most reasonable figure. Will anyone contend that this is a healthy condition of trade? Does the Chinese Government believe that the Customs revenue will be increased and augmented by such clogs on trade? True, the exporters of the country, who sold their goods when a pound sterling was worth 8 taels, have profited over those who hesitated to sell until the selling price was only 6 taels. But do they all manage to sell at 8 taels? Certainly not. Many of them would consider it was going to 9 taels, and would wait until it had fallen to 6 and they were left in the lurch. Who then has gained the benefit? And will anyone maintain that international trade can be fostered and increased under such conditions? Does it pay the Chinese Government to allow such a state of things to continue? We say emphatically, no.

"Has the Chinese Government any remedy ready at its hand, whereby its revenues may be enormously increased? We say again, as we have said for many years past—yes.

"We are led to believe that the airing of the time-worn proposal of a Gold Standard for China will be welcomed, and we propose to throw open our columns to the discussion of this all-important subject, even at the risk of tiresome and uninteresting reiteration."

EXAGGERATION ABROAD OF CHOLERA CONDITIONS IN THE PHILIPPINES

Since the American Government assumed control of the Philippine Islands there has been an active campaign against disease and it might be said that the best effort of the health department has been expended in the fight against bubonic plague, Asiatic cholera and smallpox. As a result smallpox has been practically exterminated and bubonic plague and cholera are well under control. The fight to maintain control has been very difficult, but it must be admitted that with the exception of a few outbreaks, from time to time, little now is to be feared from either bubonic plague or cholera. It has ever been the policy of the government to give the greatest publicity to the facts promptly as known upon the appearance of any disease liable to become epidemic. The fact that the publication of the facts may encourage journals published abroad to greatly exaggerate the situation, does not deter the government in doing what it believes to be its duty to the residents directly interested. When the first case of cholera develops so that the Bureau of Health is satisfied that its character is confirmed, the press is immediately informed and a warning note sounded to every resident to take every precaution for his or her protection.

The publication of this information causes no feeling of apprehension in the Philippine capital for the reason that little of any danger exists for those who take the ordinary precau-

tions. Indeed, there is no more danger in Manila at any time from cholera than there is from tuberculosis in New York City every day in the year. Every case of cholera in the city of Manila has without exception been traced to the lack of observance of well established rules of conduct with which everybody in Manila is familiar. And, notwithstanding that Manila has been visited with a number of epidemics more or less severe, at no time were there evidences of panic.

But the European and American newspapers gain a different impression. While the dispatches from Manila give the truth of the situation, the sensational press abroad exhausts some energy in digging out type large and glaring enough to give the westerner the creeps over the apparently awful menace to life that has appeared suddenly at Manila. Were the readers of these papers to realize how amusing these same articles appear at Manila to the Manila resident, they would feel less alarm. Indeed they would discount further reference to cholera in Manila in their home periodicals. And to confirm the absence of fear from cholera in Manila, *not one resident considered the situation so serious as to leave the islands while it was in progress.*

Recently cholera made its appearance in Manila. Its spread was not more serious than in former years, but the American Armada was due to arrive there at a time when the health authorities could not announce that the Philippines were free from the disease. This of course was impossible and it might be said that not one section of Eastern Asia may be declared entirely free from cholera at any time. As it applies to the cruise of the American fleet, it might be said that neither Yokohama or Amoy could truthfully declare that cholera did not exist in those two ports.

It is very true that in none of these ports nor in Manila was there ever danger of a serious epidemic during 1908 than there existed the previous year and for many years so long as the climate offers favorable conditions for the propagation of the disease. These conditions will remain indefinitely, but the capacity to control it is steadily increasing wherever competent health departments are in operation.

And so it would appear that for the reason that the Philippine Health authorities chose to be honest and give the greatest degree of publicity in regard to the situation, the American Government rewarded the islands by refusing to give the residents of Manila an opportunity to welcome the American battleship fleet, but inconsistent as it may seem it did permit the fleet to visit other ports where cholera could not be said to be non-existent and where the danger to the men behind the guns was not less than had they landed in the Philippines.

Secretary Worcester in a recent report reviewed the history of cholera in the Philippine Islands and throughout there is demonstrated that since 1817 there is record of cholera in the islands. It is also clear that it has long been endemic. Secretary Worcester is frank in his discussion of the matter making public all the statistics available and suppressing nothing. In his summary and conclusion based on his personal experience in fighting cholera directly for over eight years and many years of previous knowledge gained from contact with the inhabitants, he writes:

"I have endeavored to show that Asiatic cholera has long been endemic in the Philippine Islands. While this condition of affairs continues it will doubtless from time to time become epidemic. What then are we to do?

"Climatic and topographical conditions are unquestionably favorable to the indefinite continuance of endemic cholera, and over climatic conditions at least we can exercise no control.

"The ignorance and superstition of the common people and certain of their customs, especially that of eating with their fingers, favor the rapid spread of cholera when it becomes epidemic. These conditions can be remedied only by a patient and persistent educational campaign.

"Fortunately a portion of the public press is disposed actively to aid the efforts of the authorities to eradicate cholera. With that portion which through ignorance is earnestly but mistakenly opposing the employment of modern sanitary methods an educational campaign will ultimately prove successful, while to that portion which is deliberately vicious, which attacks the health officers because it believes such a course likely to be popular, and which plays politics at the expense of the lives of the people whose interests it professes to advocate, the law must be applied.

"In order that we may ascertain more definitely what can be done toward removing the more or less permanent local sources of infection, a careful, patient and exhaustive scientific investigation must be made through the joint efforts of the Bureau of Health and the Bureau of Science so that we learn, if possible, to identify cholera organisms no matter what the form which they may assume under varying conditions of environment, and being able thus to identify them may find the places in which they are lurking even when the disease is not present in active form, and may cleanse such places.

"However, there is no reason why we should delay beginning to put our house in order pending the result of such investigation. There are to-day within the city limits numerously thickly populated areas of considerable extent without streets, drains or any receptacles for human excreta or other filth. As a necessary result there exist in these regions thousands of seething sinks of fermentation and putrefaction in which we *know*, without examination, that cholera germs swarm. Streets must be opened into these regions. Public pail sheds must also be built, and those who fail to use them must be punished.

"Unsanitary conditions which can be remedied by cleaning out the esteros and constructing drains and ditches to connect with them must be dealt with *immediately* and those which can be remedied only by filling must receive attention as rapidly as the condition of the city finances will permit.

"That money may be made available for this work there must be an abandonment for the present of expensive projects for beautifying the city and there should follow in the immediate future the imposition of a reasonable tax upon the private property in the city in order that the necessary funds may be secured for putting unsanitary districts into decent condition.

"Last but by no means least there must be an immediate and radical change in the present attitude of the municipal authorities in the matter of the enactment and enforcement of the necessary building ordinances to compel private individuals to do their share toward improving health conditions, or the power to inspect buildings under construction and to enforce such ordinances must be taken from the city and given to the Bureau of Health.

"In connection with other scientific investigations careful bacteriological examination of the feces of numerous persons not suffering from cholera must be made and these examinations must continue during a considerable period of time in order that we may ascertain whether 'bacilli carriers' are to be met with after the cessation of an epidemic and to what they owe their immunity to the evil effects of the infection which they carry and so readily communicate to others.

"Whether or not we can entirely rid the Philippines of the cholera infection which has so long remained endemic in the Islands no one can at present say, but certainly no effort to this end should be spared. If we do not succeed in accomplishing this we shall inevitably be called upon to meet frequently recurring epidemics. Even if we are fortunate enough to achieve a result so greatly to be desired there will still remain the ever-present possibility that infection will be reintroduced from without along one of the now numerous lines of trade which keep us in touch with Japan, China, India, Java, Borneo, Australia, New Guinea, and Celebes.

"In this connection the experience of Japan is both interesting and instructive. I am indebted to Dr. Ohno for the following table

showing the occurrence of cholera in Japan since 1893:

	Cases
1893.....	633
1894.....	546
1895.....	55,144
1896.....	1,481
1897.....	894
1898.....	655
1899.....	829
1900.....	378
1901.....	101
1902.....	13,362
1903.....	177
1904.....	1
1905.....	0
1906.....	0
1907 (Aug. to Jan., 1908).....	3,268
Total.....	77,649

"If, as has been so often stated recently in the public press of Manila, the occurrence of a cholera epidemic, with our present scientific knowledge of methods for combating the disease, is a crime, crime would seem to have been rather prevalent in Japan of late! When it is remembered that climatic conditions in Japan, with its cold winters, are not such as to favor the continued presence of cholera; that it is claimed that the infection of each of these outbreaks was brought in from some foreign country; that the Japanese are an extraordinarily cleanly people and amenable to sanitary regulations and that there exists in Japan a large corps of admirably trained and highly efficient medical officers, it is only too painfully evident that in the Philippines with their tropical climate lying within easy reach of the great disease-breeding centers of population in China we can not hope to escape.

"It has been said that a properly organized and administered Bureau of Health would prevent the occurrence of cholera epidemics. Such a contention is absurd. It would be just as logical to maintain that a large, brave, well-organized and well-equipped army will certainly protect a country from war. It will decrease the probability of war and increase the chances of ultimate victory. A well-organized and thoroughly efficient health force will decrease the probability of the occurrence of epidemics, will shorten their duration when they do occur, and will decrease the mortality which they cause, but that is all. We must, therefore, hold ourselves always in readiness to deal promptly and effectively with cholera epidemics.

"The fundamental principle involved in dealing successfully with them is to attack the infection actively the instant it appears. Over and over again within the last few years we have dealt with first cases, both in Manila and in provincial towns, so effectively that there have been no subsequent cases; but this can be done only when energetic, capable and thoroughly trained men are immediately available. It is self-evident that we must organize and maintain an adequate force of such men, and that this force must, from the nature of its work, be both highly mobile and thoroughly disciplined. To this end it should serve under the immediate control of the Director of Health and any of its members who, for trivial reasons, fail promptly to go where they are sent, or who prove themselves to be lacking in initiative and in executive ability to such an extent that they can not check cholera under reasonably favorable circumstances, should be promptly removed.

"Fortunately, provision has now been made for a force reasonably adequate to protect Manila, but this force will be kept constantly on the defensive unless the provinces are freed from infection. In my opinion there should be in every province at least one really competent district health officer selected under civil-service rules and paid from the Insular Treasury.

"There should be always on hand, at some convenient central point in each province, an adequate supply of disinfectants and spraying pumps so that time may not be lost in sending to Manila for such things. The additional expense involved in carrying out this program would be insignificant in comparison with the resulting benefits."

THE NEW GRAND HOTEL AT YOKOHAMA

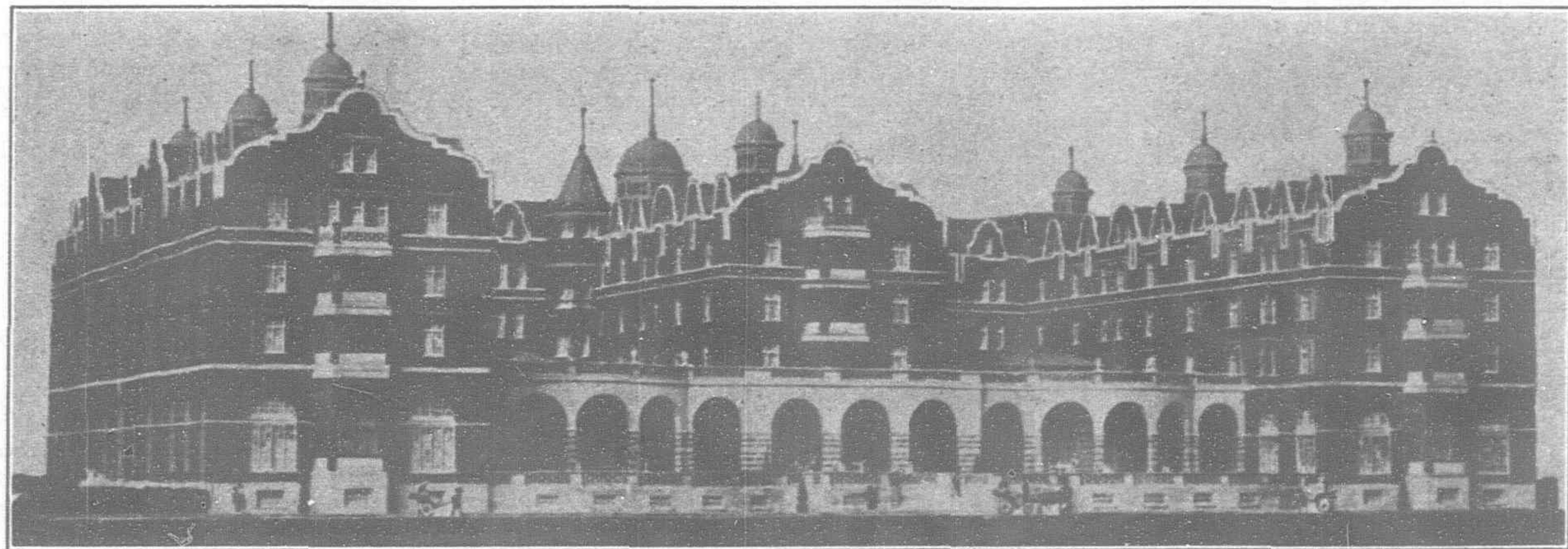
The reconstruction of the Grand Hotel at Yokohama at a cost of yen 1,300,000 is one of the most important enterprises of the year at this important Japanese metropolis. The issue of first mortgage bonds to raise the required amount was authorized early in the year at an extraordinary meeting of the shareholders of the Grand Hotel Company, Limited, and evidenced the characteristic enterprise of the organization. The following description of the proposed plans in the Japan Daily Mail gives a comprehensive idea of the new property:

"The plans and a large model of the building which is intended to take the place of the

Lounge, which becomes the social centre of fashion for 5 o'clock tea and as a rendezvous, the restaurants and dining room with their subdued decorative and color schemes, soft music, noiseless and intelligent waiting, choicest dishes, rarest wines and the general air of refinement and comfort. One of the most striking novelties is the pond of live fishes from which you may make your own selection. You will also remember the despatch with which the lifts convey you to your bedroom, most of these rooms, having lobbies and toilet rooms adjacent to them and fitted with the most modern sanitary appliances. The pre-

scheme perfectly clear. The first building to be erected on the vacant space facing Water Street consists of bedrooms above and shops on the street level, containing fifteen splendid windows embracing two floors, with in some cases a cellared basement. In addition to the access from the street these shops also have direct access from the hotel with windows their whole width for the exposition of their contents to the visitors in the hotel.

"The main entrance is in the centre of the building and opens on to a beautifully proportioned rotunda the whole height of the building and lighted by the dome above; around the rotunda are grouped the reception and enquiry bureaux, the main staircase and passenger lifts, the baggage room, with direct entrance from the street, the corridors right and left to the end wings, while before you



VIEW OF FRONT ELEVATION NEW GRAND HOTEL

present Grand Hotel show a truly fine fabric, which when seen from any of the three open sides, but specially from the bay or the Bund, must present a most striking and attractive appearance. That readers may begin to understand its site and form with reference to the Bund, Creek and Water Street, it should be pointed out that it is in form of an E, with, on the ground floor only, partially detached buildings between the long arms and the short one. It does not cover exactly the same site as the present structure because the Creek-side arm is adjusted so that its lines are diagonal to those of the roadway and in consequence a triangular plot of ground is obtained which will furnish a capital tennis lawn. The front is of course on the Bund and a very imposing front it is. From the street one passes up across an open terrace into the covered loggia which runs the whole distance between the outer wings and which it is intended to glaze so that protection may be afforded in heavy weather to those wishing to proceed in this way from one wing to another without passing through intermediate rooms. The main entrance from the loggia is in the middle wing and on entering this one has a vista clear through to Water Street. Indeed this matter of vistas has been quite one of the main features in the mind of the architect—Mr. R. Coulburn Lovell, of Eastbourne, England—who has been associated with the erection and equipment of the famous Carlton hotels in London, Edinburgh, Johannesburg, Granada, Rio de Janeiro and other places. Read what Mr. Lovell says about vistas and the effect they produce:—'It is suggested that a control similar to the Carlton be introduced into the New Grand Hotel of Yokohama. Those who are acquainted with the Carlton or Ritz Hotels will no doubt remember their distinguishing features. The wonderful perspective and almost theatrical effects of the entrances, the vistas one has across the various apartments and corridors, the wonderful Palm

cautions taken against fire by means of exterior fire staircases, fire hydrants, etc., are also strongly in evidence. Another feature which strikes all visitors accustomed to hotel life in establishments under the Carlton régime is the wonderful quietness and quickness of the attendance, thus accounting for the astonishing amount of space that has to be allotted to kitchens, engine room, refrigerating rooms and service reasons throughout the buildings.'

"This reads very well, indeed, and if Mr. Lovell could carry out the idea thus embodied even to a moderate degree one would think that he would produce an admirable building. Yet the plans and model show that he has done excellently. There is the middle vista by which a person can see past the palm lounge away out into the bay, and a lady who walks from one end of this fine piece of perspective to the other can do so with the fullest confidence that her frock is being seen to the utmost advantage. Nor is it at all one monotonous level; there is a gallery half way through which is reached by a step or two; other steps demand descents, the whole effect of course being agreeable and alluring. There are also cross vistas where the view is unimpeded from wing to wing. As to the other features they also are provided for—there is an external and interior bricked fire staircase in each outer wing, and the most modern hygienic appliances and arrangements are provided and so forth. Suffice it is to say that if the architect is enabled to carry out his plans Yokohama will have not merely a magnificent but a comfortable, a commodious and a luxurious hotel. We gather that Mr. Lovell, who leaves on the 22nd, will return to start the building, when he will probably be accompanied by Mrs. Lovell, who is the only daughter of Mr. W. H. Stone, of Tokyo.

"The following description will convey a fair idea of the intentions of the architect and directors and of the general nature of the buildings:—

"All these Carlton features Mr. Lovell has embodied in the new Grand Hotel and he hopes to obtain the same results subject of course to the modifications required by local conditions. The exactly proportioned model makes the

opens up a wonderful perspective view, which is enhanced by a few steps leading up to a fountain, across which one sees the palm lounge, green and cool, and through the opposite doors you may pass on to the covered loggias and magnificent terrace facing the bay.

"Right and left from the palm lounge you pass to the *salle-de-fête*, wine, *café* and private dining rooms, or to the *salle-à-manger* and restaurant. All this vast expanse of the ground floor is full of beautiful vistas with charming effects of light and shade, rendered possible by the large decorated window-doors which form the communication between these various apartments. The effect is greatly enhanced by the introduction of carefully chosen color schemes which, judged from the terrace, will produce a result of harmonious coloring nowhere else attainable.

"The kitchen is ingeniously placed on the same floor but with an intervening lobby between the restaurant and *salle-à-manger*; these both open on to the covered loggias and terrace, where visitors may lunch in the summer sheltered from the noonday sun or dine in the evening cooled by the refreshing breezes and gaze upon the bay with its ever moving ship-lights mingling with the star-lights overhead, and listen to the music of the band and murmur of the fountains near at hand. The same charm is offered to those visitors using the wine, *café* and banquet rooms on the other side of the terrace. This moving panorama makes the position of the Grand Hotel unique in the world and every advantage has been taken to make the most of it. Of the 254 bed or sitting rooms, two-thirds of them overlook the bay and there is not one interior room in the building. This result has been obtained by a plan of the form of the letter E with its back on Water Street. The bulk of the principal bed rooms have lobbies with private toilet rooms attached and the sitting rooms have exterior balconies facing the sea.

"The billiard room, bar and coiffeur are on the lower ground floor under the grill room restaurant. The ground floor of the south wing facing the Bluff is arranged with separate

entrance as an independent suite of fine rooms suitable for the entertainment of a royal or distinguished personage, and with the magnificent *salle-de-fête* and wine *café* adjacent constitute quite the finest set of entertainment and banquet rooms in the Far East. The main suite, measuring forty feet by eighty feet long is suitable for dances, bazaars, theatrical entertainments, etc., while during the tourist season the management intends to produce essentially Japanese functions and amusements for the entertainment of the guests of the Hotel. Between this south wing and the road will be grassy banks and a well kept tennis lawn as a still further attraction.

"The style of architecture chosen by the Directors for the facade is Tudor Gothic of the time of good Queen Bess, the castellated parapets, the graceful curved gables and dormer windows, making striking outlines against the sky. This sky line is further accentuated by the copper covered turrets and towers; the latter contain the main staircases and the former are used as exhaust ventilators operated by the electric driven fans which produce a gentle breeze of fresh air passing through the building. The principal rooms have fresh air inlets taken from the bay front and in the winter these currents are passed over radiators so that all the air is warmed before passing into the building.

"Mr. G. L. A. Smith's recent report to the Directors is interesting reading. He explains that visitors ask for better accommodation and are quite willing to pay well for it and that quite a number of guests are refused each year for lack of rooms. Mr. Smith calculates that with capable and economic management and control, the net profits of the New Hotel will not be less than 200,000.00 per annum, in which he includes the extra business which would result from the *salle-de-fête*, banquet and private dining rooms, etc., and also the rentals from the shops. He confirms his calculation by the accountant's figures of the net earnings of the hotel for the last 6 years which average over 80,000.00 per annum with only about 100 letting rooms.

"As Mr. Smith says—'With the vastly superior accommodation and 250 splendid letting rooms I think my calculation is a conservative one, particularly when I emphasize the need of providing the extra and up to date accommodation to that which the Hotel at present contains.'

"On these figures Mr. Lovell considers the following financial scheme most prudent, appealing as it does both to the bond investors and the share investors:

1,300,000	First Debentures	7 per cent	91,000.00
500,000	Ordinary Shares	10 per cent	50,000.00
Redemption Fund			59,000.00
Minimum net income per annum			200,000.00

"The money provided by the Debentures being entirely spent in improving the security and property, at the end of fifteen years the ordinary shareholders will possess a splendid building instead of the present one and will have received their usual dividends during the whole of that period.

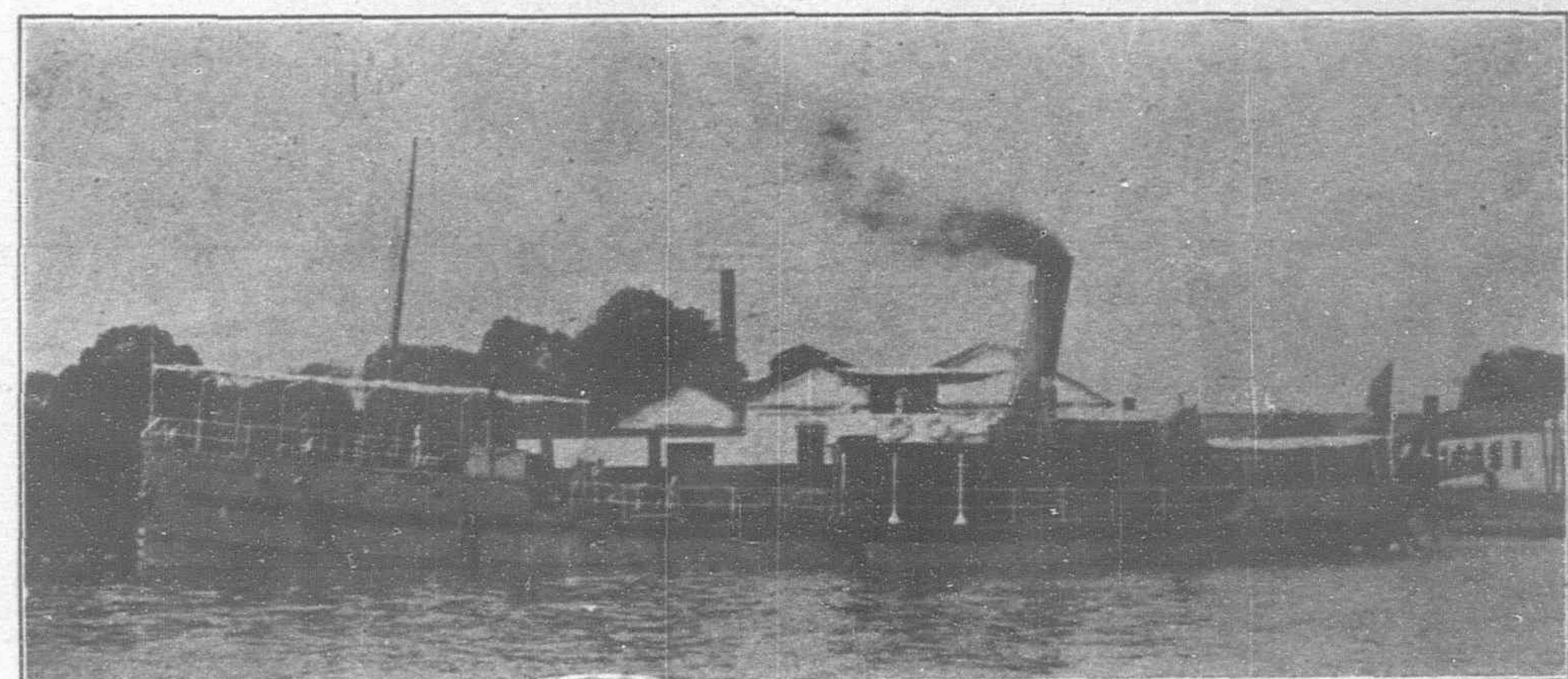
IRKUTSK-LENA RAILWAY*

In correspondence from Irkutsk to the "Torg. Prom. Gazeta," on the state of trade in the district, there is the following note:

The Irkutsk merchants have kicked against the competition of Vladivostock by making a proposition to close the free port in order to maintain the Verchne-Udinsk market, and, in conjunction with the Irkutsk Town Council, decided on investigations for the construction of the Irkutsk-Vercholensk-Baikal-Bodaibo Railway, for which purpose they assigned last year the sum of 11,000 roubles (8,000 from the Town Council and 3,000 from the merchants), and in the present year 15,000 roubles to complete the investigation. With this road, which

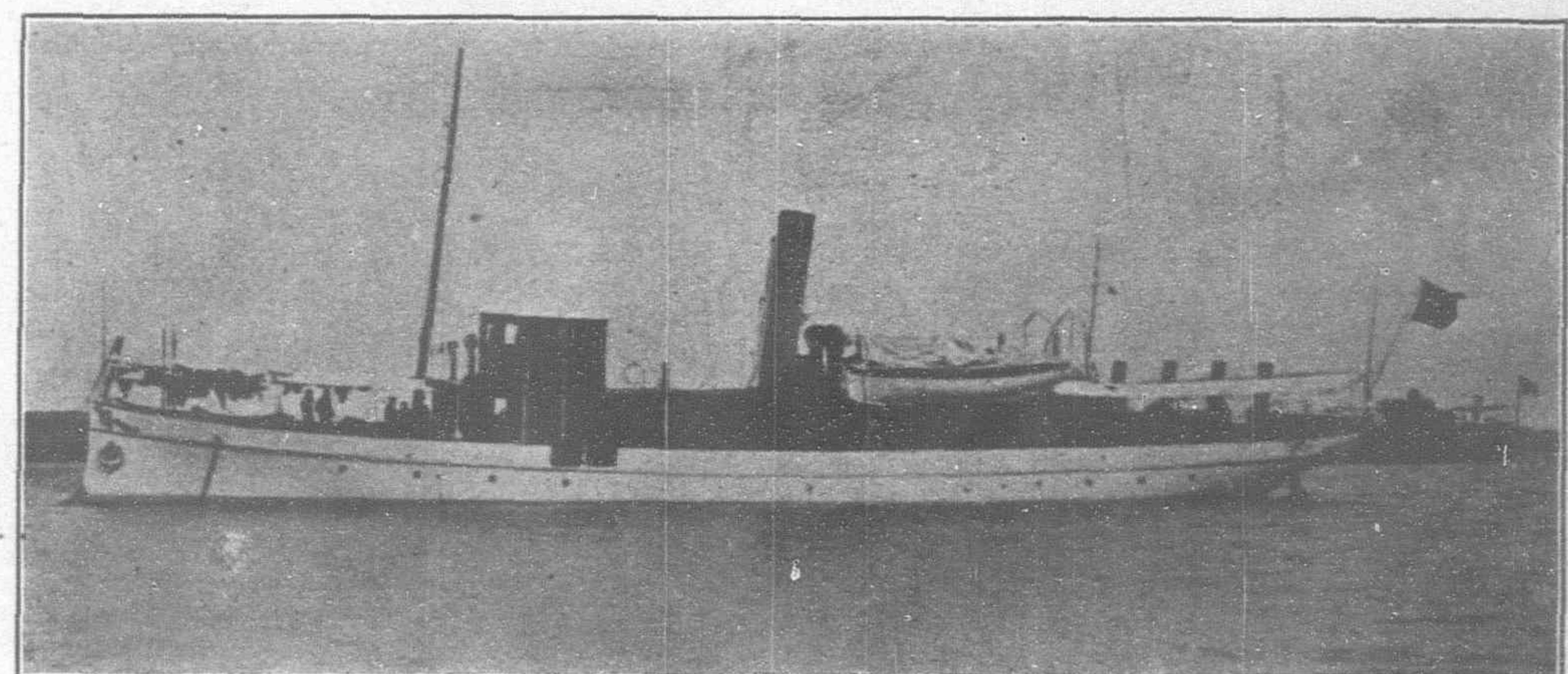
will pierce the centre of the gold industries, at two points will strike the Lena River with its two tributaries, the Irkutsk market will be strengthened to such an extent that the introduction of foreign goods there even with the existing free port will be impossible because of the tariff for carrying goods. The coming railway as projected will go direct from Irkutsk firstly, along the right bank of the Angara River, then descending between the mountains in the valley of the Kuda away past Dzorkovsky to the town of Vercholensk, then across the Lena to the Nikanovo Lake, and through the valley of the Kanda to the village of Karamsk, whence it will run to the shore of Lake Baikal, through rich auriferous areas near the gold mines of the Nyurundukansk company and other claims, and turn with an easy curve

for example, each workman at the mines in the Bodaibinsk district (the Olekminsk-Vitimsk system) costs 2,000 to 2,594 roubles a year—for the season—and there are gold sands to be washed containing 2½ to 3 solotniks per 100 poods. But with the introduction of the railway it will be easy to reduce the cost of the workmen to 1,200 to 1,300 roubles per annum—just one-half—and mines can be worked containing 1½ to 2 solotniks per 100 poods, of which there are very many, and which have been lying idle, and awaiting happier days. The expensive and in the highest degree extravagant cost of delivering goods to Bodaibinsk prejudicially affected such large concerns as the Bodaibinsk, the Lena company, etc. The extraction, which of old had reached 5,000 poods, fell to 800 and 600 poods.



THE "KAN CHUEN," A STEEL SCREW WATER BOAT

Built by the Kiangnan Dock and Engineering Works, Shanghai, to the order of the Chinese Imperial Navy for Supplying Fresh Water to the American Fleet at Amoy. Capacity of Tanks 250 tons; speed 9 knots. The Keel was Laid July 7th, 1908, and the Vessel was Launched in Six Weeks and Turned Over to the Navy September 25th, 1908.



H. I. C. M. S. "AN FOON," A STEEL SINGLE SCREW DISPATCH BOAT

Built by the Kiangnan Dock and Engineering Works, Shanghai, for the Ngana Hwui Provincial Government.—Armament, one 47 mm. Q. F. Gun; one 37 mm. Q. F. Gun and Four Maxims.—Speed 12.5 knots, displacement 170 tons.

to Bodaib. The length of the projected line is 1,010 versts, and the estimated cost is 34,000,000 roubles (£3,400,000). By means of this railway there will be opened for the immigration movement a great number of useful lands to the south of the Kurensk and the Vercholensk districts, and the gold industry will be stimulated by the development of the cheap delivery of goods. At the present moment,

1 Doli = .6857 grains Troy = (gold at £3 13s. per oz.) 1½d.	
1 Zolotnik = 65.8329 "	" = " " " "
1 Funt = 13.1665 oz.	" = " " " "
1 Pood = 526.6632 oz.	" = " " " "
62.025 Poods = 1 Ton (2,240 lbs.)	" = " " " "
1 Aatschin = 2 feet 4 inches.	
1 Sajen = 7 feet.	
1 Deciatine = 2,400 sq. sajens = 2.7 acres.	
1 Verst = 500 sajens = 1,166 yards or ½ mile approximately.	

THE PHILIPPINE GENERAL HOSPITAL

The ambition of the representatives of the American government and especially the health authorities of the Philippine Islands are to be realized in the early construction of a large and modernly equipped hospital. An appropriation of ₱750,000 was made available for carrying on the work last year; the corner stone was laid March 2nd, 1908, by the Hon. Dean C. Worcester, Secretary of the Interior, and the construction is now under way. This sum will not complete the entire plans as projected, but money will be made available from time to time to add to the initial buildings until the minutest details are carried out. The area set aside for the hospital buildings, and those complimentary thereto, and the new medical school, covers an area of about 15 acres including the site occupied by the Bureau of Science buildings.

According to the report of the Consulting Architect, Mr. W. E. Parsons who drafted the

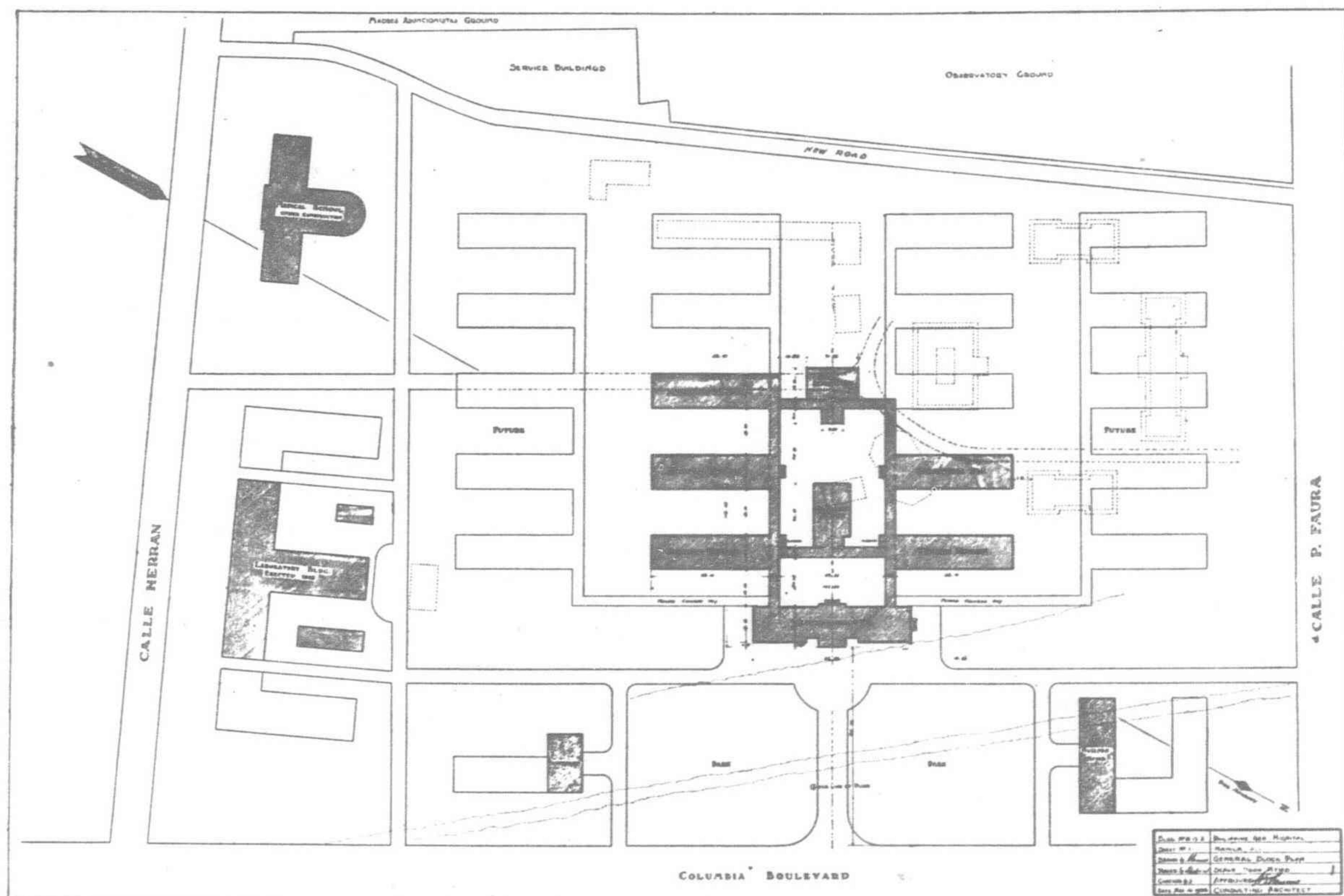
to either the horizontal development by means of one story pavilions, or to vertical development as expressed in the eight or ten story buildings in America, was adopted after a careful consideration of all the various types of hospitals which have been advanced and rejected in the light of new discoveries in medical science during the last half century. The many storied structure advocated in America is the logical and necessary solution for a hospital in crowded districts. In Manila, the ample dimensions of the site, the expense of securing foundations for lofty structures, the prevailing sentiment against high buildings in a country subject to earthquakes, and, above all, the fact that a system capable of expansion was essential, were sufficient reasons for adopting pavilions of two or three stories as a unit. The buildings will be constructed of reinforced concrete throughout and covered by tile roofs. The hospital will consist of an administration

ing reinforced concrete walls piers and partitions; reinforced concrete floors, and roofed with tiles supported on angles, rafters, purlins and trusses of steel. Some partitions will be of wood studding plastered in metal lath.

At the ends of the corridors all the horizontal reinforcing rods are to project so as to secure proper connection with the adjoining buildings.

The entire ground floor including the galleries of the administration building and all the verandas in connection with the wards and private rooms together with the floors of all bath, toilet and sink rooms in the building throughout are to be paved with tile laid on top of concrete floor, and with pitch outward throughout.

All concrete walls will be reinforced on each face with the exception of the partition walls with plain round vertical bars three-quarters of an inch in diameter and not more than 18" apart and set back 2" from the face of the wall.



GENERAL PLAN OF THE PHILIPPINE GENERAL HOSPITAL SHOWING LOCATION OF MEDICAL SCHOOL AND BUREAU OF SCIENCE

plans, the general plan consists of a central group of buildings including the administration, operating and kitchen pavilions and as many ward pavilions as may be constructed with the funds at present available, or as future needs may determine. The portion under construction will contain three hundred beds. While opinion differs as to the how large a hospital may be required, or can be maintained in the future, the site reserved for those buildings is large enough to permit the construction of twenty ward pavilions without crowding, and since each pavilion will contain seventy beds, the ultimate limit of size would be 1,400 beds. The buildings as designed have two stories, but the increasing of the ward pavilions to three stories is now under consideration, the selection depending upon the economy of construction and operation. In case the three story design is adopted the clear space between the buildings will be increased from 19 to 24 meters. This system is preferred

building and five two story separate ward pavilions with a capacity of thirty patients on each floor; a building for surgical work and separate buildings for kitchen, nurses home, free dispensary and out-clinic, ambulance and morgue.

The Medical School, which is being constructed in the same area convenient to the Bureau of Science and the General Hospital building, will cost approximately ₱250,000 and will also be built of reinforced concrete with tile roofing.

As described in the specifications, the General Hospital project includes eight buildings viz:

Administration building, medical pavilion, maternity pavilion, surgical pavilion, private ward pavilion, orthopedic pavilion, kitchen pavilion and operating pavilion, all of two stories and connected by a series of corridors.

These buildings will be constructed throughout of reinforced concrete foundations, support-

The horizontal wall bars will be one-half inch in diameter and spaced not more than 28" apart and wired at intersections with no 13 gauze, annealed galvanized wire.

The reinforced floor beams of the administration building supporting the second floor will each be reinforced with two seven-eighths inch deformed or one square bar twisted, one inch square, in one length between supports. The girders supporting the floors in this building will be reinforced with eight steel deformed bars seven-eighths of an inch square to extend the full length of the girder in one piece and to overlap supports.

The entire ground floors (including all connecting corridor floors) will be reinforced with $\frac{1}{2}$ " diameter bars and $\frac{1}{4}$ " diameter transverse bars.

All second floors throughout (including the second floor of connecting corridors) will be constructed of concrete reinforced with square or corrugated rods of $\frac{1}{2}$ " or $\frac{3}{4}$ " square, according to spans, and these floors will be

supported on reinforced concrete walls or reinforced concrete girders, except over the convalescent room and amphitheatre in the Maternity Pavilion, and the large ward rooms in Orthopedic, Surgical and Medical Pavilions, over which rooms the second floors will be supported on I-beams, incased in concrete, secured by wire twisted around I-beams.

All reinforced concrete beams and girders throughout the building will be reinforced for

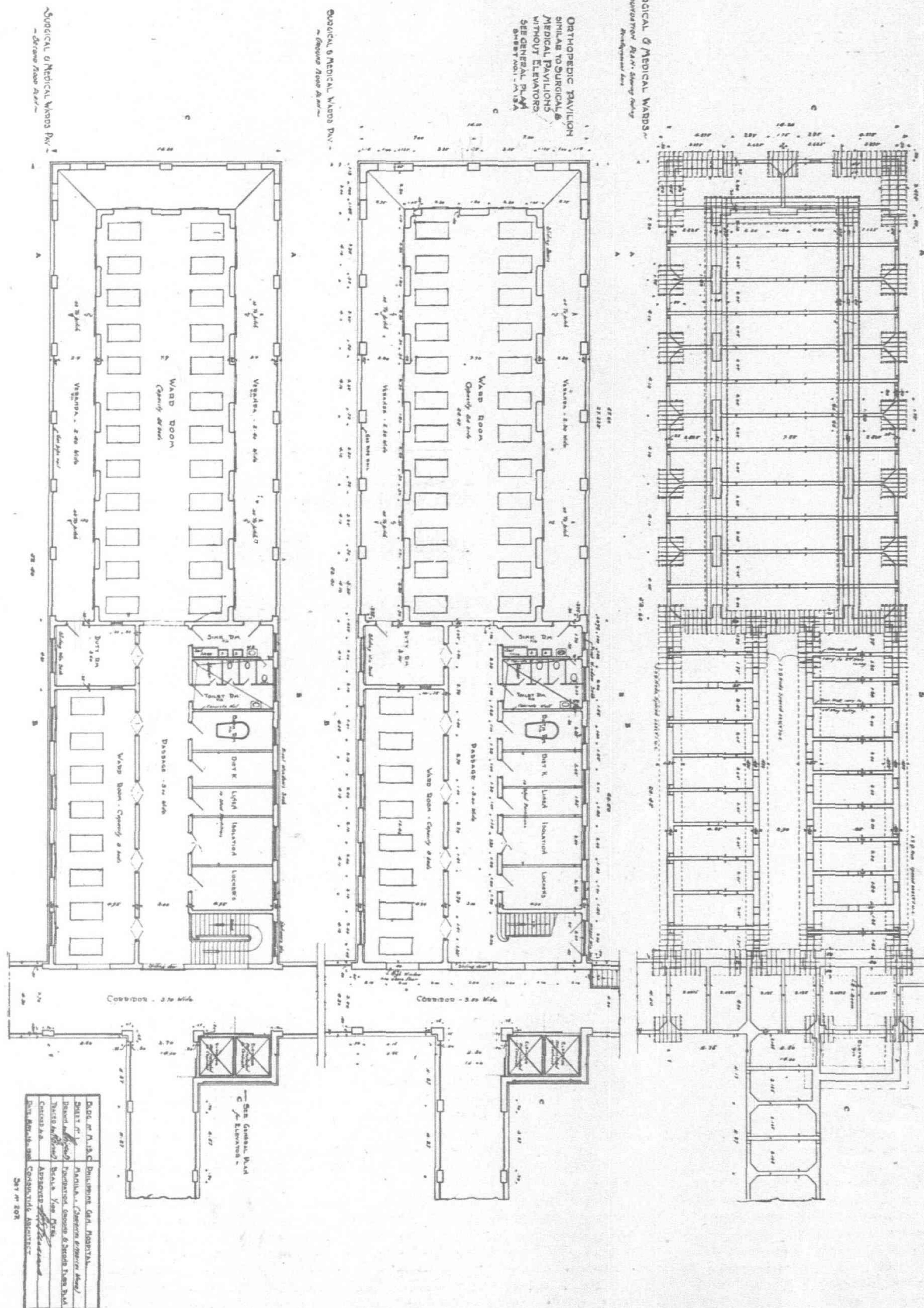
shearing by U-shaped bars, 14 to each girder and 10 to each span of floor beams. These bars to be $\frac{3}{8}'' \times \frac{3}{8}''$ square.

Intersections of all bars with U-bars will be wired together. All bars must be in one length, welded together where necessary, with double reinforcement in walls under ends of girders.

The main cornice of center pavilion of Administration Building is to be of concrete

reinforced by projecting brackets of $\frac{1}{2}$ " rods wired together and secured to vertical wall reinforcement.

The interior ground floor columns of the Administration Building will each be reinforced with eight (8) $\frac{3}{4}$ " square twisted or deformed bars, extending from the top of the footing to the top of the column. These bars will be tied together horizontally every 24" with $\frac{3}{8}$ " square bars bent around the vertical bars,



and lapping the ends of each horizontal bar 3". Wired at each intersection of the horizontal bars with the vertical bars.

There will be two elevator enclosures on each floor of connecting corridor with 2" wrought iron posts and movable wrought iron grilles attached to posts so as to swing open.

All lumber of every description used in the permanent construction of buildings is to be sound, well seasoned, thoroughly dry, merchantable lumber, free from large or unsound knots, shakes, rot or other defects. All is to be of the proper quality for the various places and uses required, and the best to be used for the most prominent places.

The timber for ceiling joists and ceiling, furring strips, will be Apitong.

The flat concrete roof shown over part of the Surgical Pavilion will be laid with two-ply Malthoid roofing, manufactured by the Paraffine Company, San Francisco, Cal., or any other equally good approved roofing.

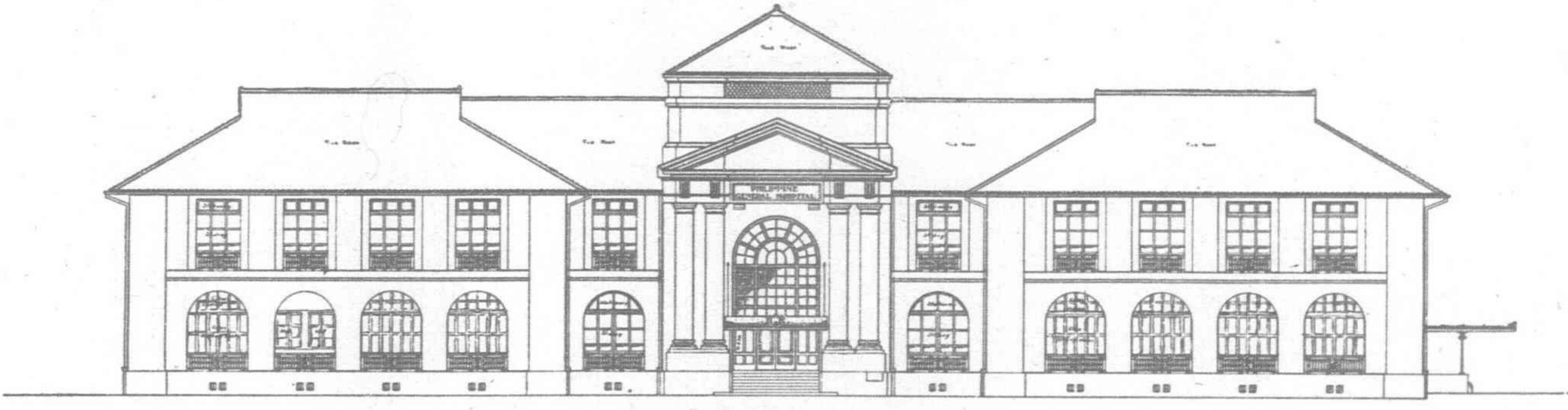
ROOF TRUSSES.—There will be furnished and erected for all buildings throughout, except connecting corridors, steel roof trusses supporting channel purlins bolted to same, and on top of purlins, channel rafters bolted to purlins. On the rafters bolt $1\frac{1}{2}'' \times 1\frac{1}{2}'' \times \frac{1}{4}''$ angles, spaced about $13\frac{1}{2}''$ on centers, the spacing to be determined by the exact size of roof tiles. The outside angle at line of gutter will be $2\frac{1}{2}'' \times 2'' \times \frac{1}{4}''$. All roofs, excepting roofs of corridors, to have these angles.

The specifications provide for the furnishing

background. The treads to be $2\frac{3}{4}''$ thick at the nosing and 1" thick at the back. Treads may be laid in cement mortar and to have plain moulded nosings.

Some idea of the close relationship which will exist between the officials of the Medical School and the Bureau of Science together with the organization of a hospital staff upon the completion of the General Hospital may be gathered from the report of Dr. Paul Freer, Director of the Bureau of Science and Dean of the Faculty of the Philippine Medical School, in which he says:

"The close relationship which exists between the Bureau of Science and the Philippine Medical School is likely to render necessary, in the near future, some readjustment between the



FRONT ELEVATION ADMINISTRATION BUILDING, PHILIPPINE GENERAL HOSPITAL

The timber of roofs of connecting corridors is to be Guijo.

All exterior door and window frames, their sills, mullions, transom bars, also interior door frames in concrete walls, will be of Molave or Ipil.

Window sash and doors throughout are to be Narra.

Partitions sheathing and studding, and interior door frames in wood partitions, will be of Apitong.

Substitution for any of the above woods by any other of the same group, equally good, will be allowed upon approval of the Consulting Architect.

TILE ROOF.—Steel angles will be placed over the entire roof (except over connecting corridors), the spacing of these to be determined by the pattern of the tile. The first or eaves course to be higher than the others, so that the first steel angle will have the vertical leg one inch higher than the other angles.

Roofs throughout all buildings, including roofs of connecting corridors (but excepting the media agua roofs), will be covered with No. 1 selected imported grooved, interlocking red roofing tile $9'' \times 16''$ (T-1), Catalogue No 6 for 1906, of the Ludowici-Celadon Company, Chicago, Ill., or other similar, approved, Hydraulic pressed cement tile of local manufacture equal in quality and design. No tile to be used that are chipped in the side lock or gutter, or otherwise defective.

The tiles throughout will be laid directly on open steel construction, and fastening every tile to the small supporting angle with No. 18 copper wire, one end being attached to the pierced lug of the tile and the other end to a coppered clip sprung on to the lower flange of the steel below.

All vertical and longitudinal tile joints are to be carefully pointed with elastic cement.

The hips will be interlocking, similar in design to the ordinary native clay tile, but will be made of compressed cement. Before setting them in place, cement mortar is to be laid along the edges of the cut tiles, making their joint against the hip board a bed for the roll. After being set, the joints and edges are to be pointed with elastic cement mortar.

The ridge roll will be built of cement in forms and covered with native clay tile, overlapping 3", and laid in cement mortar.

and erection of posts under hip rafters where indicated on drawings, constructed of angles riveted together, with angle shoes riveted to same. Attach away bracing between trusses where indicated, of .019 ($\frac{3}{16}''$) rods with turn-buckles. The foot of each truss is to be secured in place by a $\frac{3}{8}''$ bolt, 2' 6" long, built into concrete.

The purlins and rafters and all roof construction of the connecting corridors between buildings will be of wood, but that part of the roof of connecting corridors which is a continuation of the roof of ward buildings is to be of metal framing, the same as ward buildings. Anchors will be placed on the ends of all beams and bearing plates as indicated.

METAL CEILINGS.—The ceiling of kitchen building, and second story ceilings of connecting corridors and all verandas also the ceilings over the entrance and of the two marqueses of the Administration Building, are to be covered with finely crimped steel sheeting, style Q, as manufactured by the Wunderlich Patent Ceiling & Roofing Co., Ltd., Sydney, N.S.W., catalogue 1903, or other equally good metal ceiling approved by the Consulting Architect. The ground floor ceiling of connecting corridor adjoining the kitchen will have the second floor joists exposed and the metal ceiling omitted on the ground floor. The joints between the ceilings and concrete walls and concrete partitions will be covered with a dummy rib.

Metal ceilings, in addition to the priming coat before shipment, will receive one coat of red lead and oil paint on both sides before being secured in place, and finished with two coats of lead and oil in colors as selected by the Consulting Architect.

CEILINGS.—The vaulted ceiling over vestibule of Administration Building is to be supported on ribs composed of angles assembled in pairs and bent to curve of vault, as shown. Between these ribs channels will be placed, as shown, to support $1'' \times \frac{1}{4}''$ flat bars bent to curve, the flat bars to space 12" on centers. To these flats will be wired the metal lath for plastered ceiling of vault.

MARBLE MOSAIC STAIRS.—The treads of the front and rear and side steps of the Administration Building, also the treads of all interior stairs throughout all buildings, will be of compressed cement concrete slabs in one piece, with white marble incrustations on a black

officers and employees of the two institutions. The Director of the Bureau, Doctors Strong, Musgrave, Marshall, Garrison, Ruediger and Messrs. Rosario and Clegg, have been active members of the faculty of the Medical School and have devoted much time to its interests. The results have been very satisfactory so far as regards the school, but the regular work of the Bureau has necessarily suffered to some extent.

"With the completion of the new General Hospital buildings and the opening of the doors of that institution, it will of course be necessary to organize a hospital staff, as no single physician and surgeon, however competent, and tireless, could properly attend to the work of such an institution.

"Many members of the faculty of the Medical School will require the laboratory facilities of the Bureau of Science for themselves and for their advanced students, while officers and employees of the Bureau of Science will doubtless continue to give instruction in the Medical School. The central scientific library now connected with the Bureau of Science will necessarily serve as a medical library for the School. The Biological staff of the Bureau of Science will need to have access to the pathological material from the hospital while members of the clinical staff of the hospital wish to pursue laboratory investigations. The faculty of the medical school will desire to take their pupils into the hospital in order to give them practical instruction. It is evident, therefore, that the relationship between the three institutions will necessarily be of the most intimate character and that each will profit by the close proximity of both the others. However, the satisfactory division of duties between the members of their staffs is a matter which will require careful consideration.

The administration building will be rather an imposing structure with an arched vestibule running through the building and flanked by the administrative and staff offices. It will be 65 meters long and 15 meters wide and fronts the boulevard.

The medical, surgical, maternity, private ward and orthopedic pavilions are each 48 meters long and 14 meters wide and form the wings of the hospital. In the center of the quadrangle the operating pavilion will be located, and in the rear, the kitchen, 21 meters long and 13 meters wide.

The contract for the construction of the hospital was let to the Manila Construction Co., well-known contracting firm of Manila, after keen competition. One feature of economy inaugurated by Mr. H. Thurber, the manager of the contracting company, was the installation of a meter gauge railway from the Bulete estero to the site of the new buildings, a distance of over a mile. This arrangement saves a large percentage in the cost of transportation of supplies. The latter is now being delivered from shipside to the terminal of the line and then transported direct over the line to the scene of operations. The equipment including a locomotive was formerly

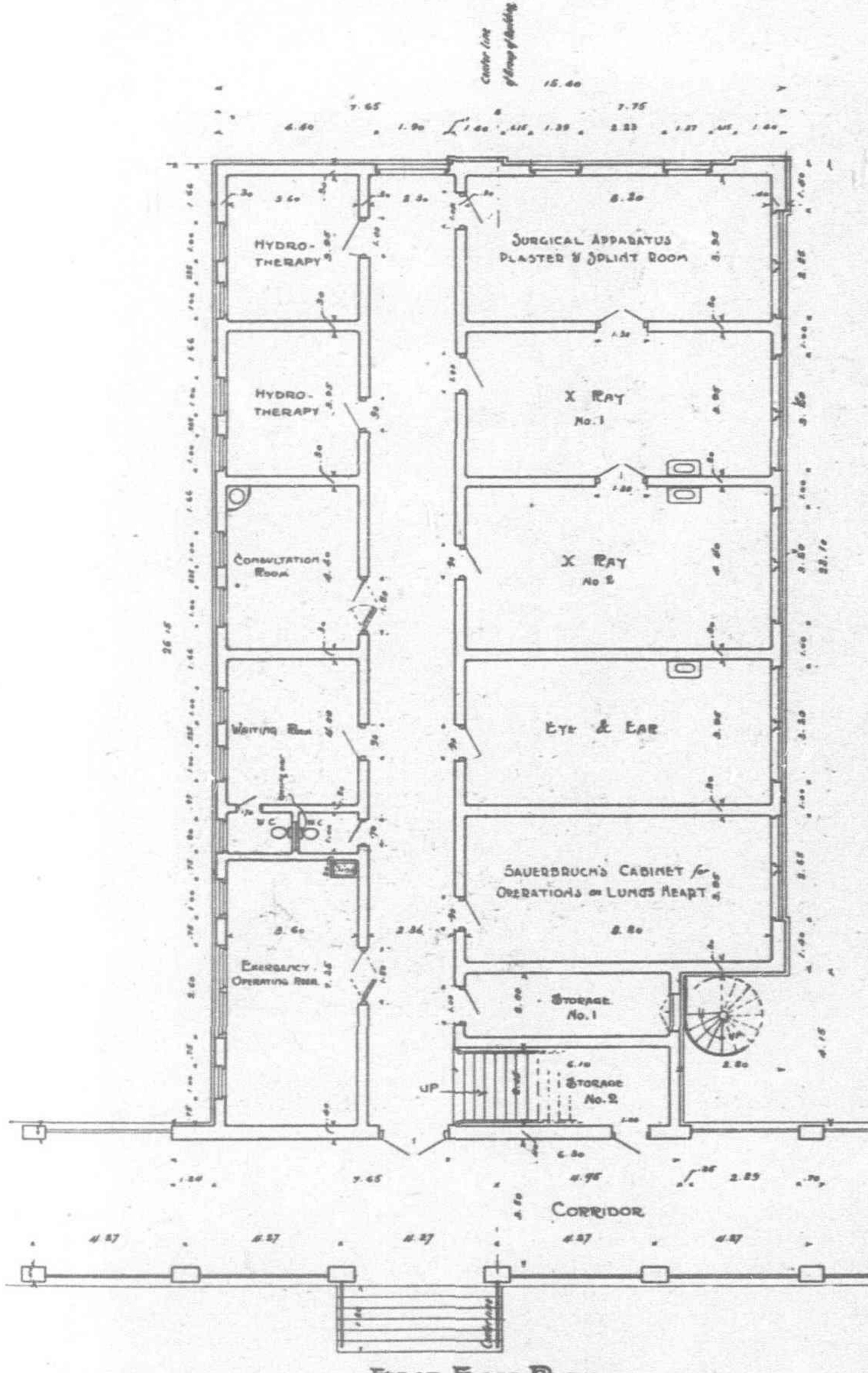
Fifth Annual Medical Conference at Manila and other Medical Institutions Visited in Hongkong, Singapore and the Federated Malay States

By SIR ALLEN PERRY*

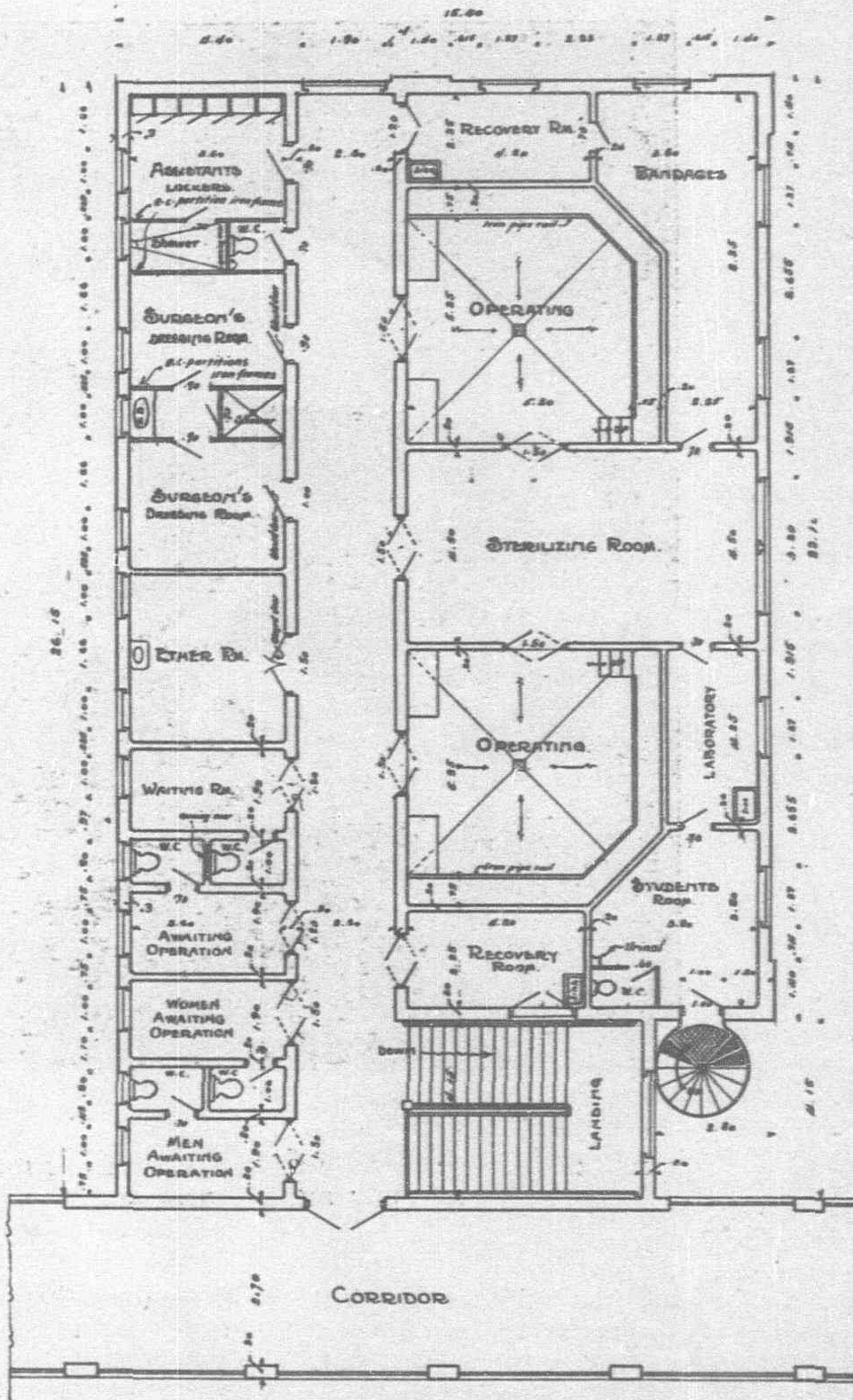
On Saturday, February 8, 1908, I embarked at Colombo for Manila, Philippine Islands, in conformity with orders received from His Excellency the Governor, to attend the Fifth Annual Meeting of the Philippine Islands Medical Association, as delegate from Ceylon.

bers. The Conference lasted from February 26 to March 1.

The opening address was delivered by His Excellency the Governor-General of the Philippine Islands, which was followed by an address of welcome in Spanish by the Hon. Felix M.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

PLANS SHOWING ARRANGEMENT OF THE OPERATING WARD PAVILION, FIRST AND SECOND FLOORS

utilized by the Manila Construction Company in the construction of the new waterworks reservoir at San Juan del Monte. This feature which is a great advance on the ordinary means of transportation also means great expedition in pressing the completion of the contracts. The following are the bids of the Manila Construction Company:

Administration	₱110,575.00
Surgical Ward	68,237.00
Orthopedic Ward	68,745.00
Maternity Ward	68,745.00
Medical Ward	68,238.00
Private Ward	73,569.00
Operating Ward	45,750.00
Kitchen	27,975.00
Medical School	132,975.00

I arrived at Hongkong on the 20th idem, and left that port for Manila on the 22nd idem, arriving on the 25th idem.

Medical delegates from the following countries and Governments were present: Ceylon, the Straits Settlements, the Federated Malay States, Siam, Hongkong, the R. A. Medical Corps, Hongkong, Japan, China, the China Medical Missionary Association, and Indo-China.

The Members of the Philippine Islands Medical Association representing the Civil, Naval, and Military Medical Services of the United States of America were present in large num-

Roxas, President of the Manila Municipal Board, after which a learned paper was read on "The Influence of Bacterial Symbiosis upon the Biology and Pathogenesis of Animal Parasites," by Dr. Musgrave, the President of the Philippine Islands Medical Association. The work of the conference commenced at 10 a. m. daily and finished about 5 p. m. There were in all some thirty-eight scientific papers submitted, many of which led to interesting discussions. My paper was on "Ceylon's immunity from Plague."

The delegates were most hospitably received, and everything possible was done to make their visit instructive, interesting, and agreeable. The more serious work of the Conference was lightened by various social functions

*Report of Sir Allen Perry, M. D., D. P. H., Principal Civil Medical Officer, Ceylon and ordered printed by His Excellency the Governor in the Ceylon Sessional Papers.

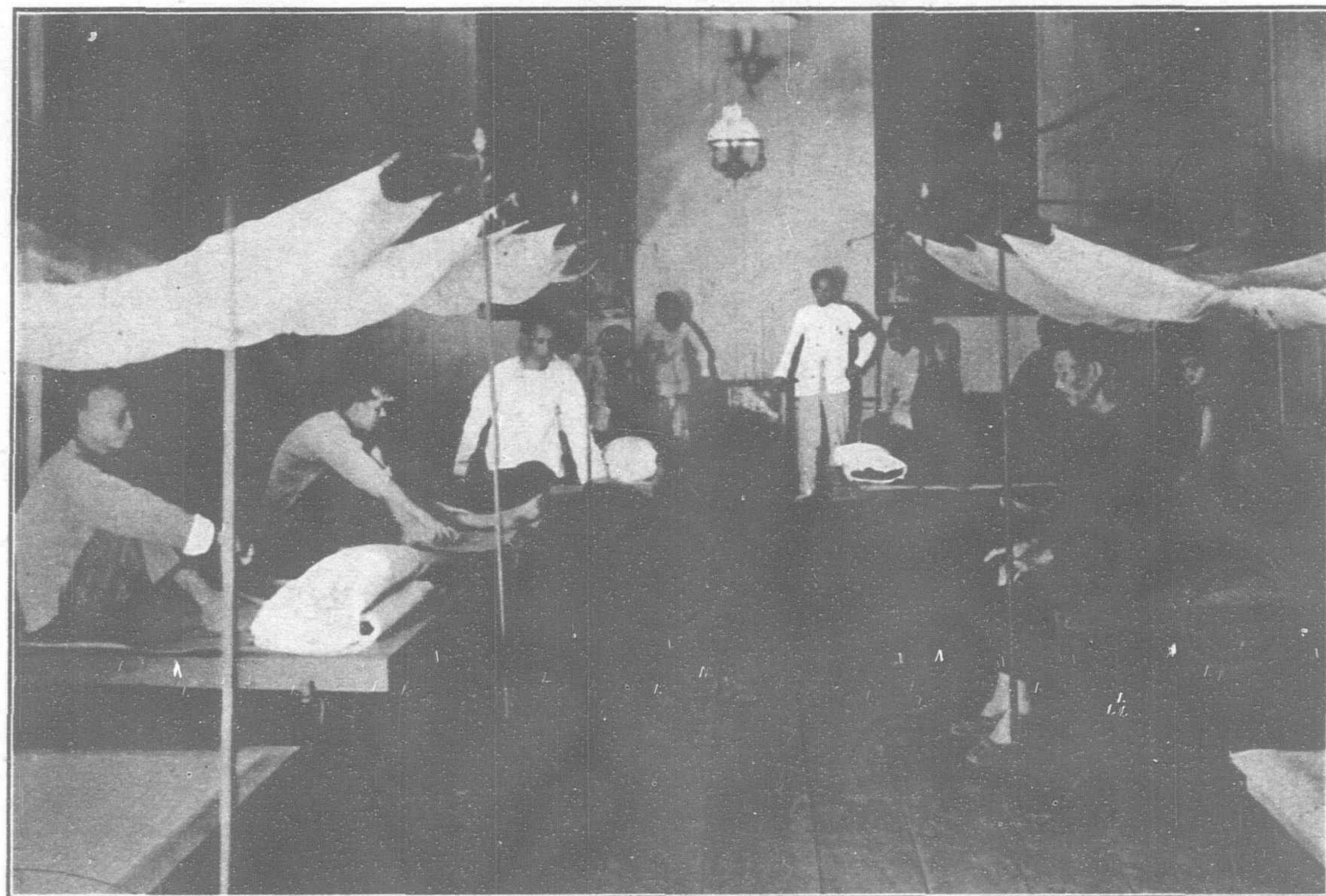
e. g., a dinner given by the Governor-General, a dinner given by the President of the Philippine Islands Medical Association, a luncheon party given by the Military Medical Staff of the Division Hospital, an excursion across the bay to the Naval Depot, an excursion to the large military post at Fort McKinley, and a carnival ball.

Institutions: Medical and Others.—(a) The civil hospitals are all located in old Spanish buildings, and in consequence are far from being up-to-date. They are, as a rule, overcrowded, but there are two facts which strike a stranger as being well-nigh perfect: 1st, the high scientific training possessed by every member of the various hospital staffs; and 2nd, the elaborate precautions taken to protect the patients from mosquitoes, and the latrines and kitchens from flies. The naval

sane, and opium habitués occupy separate parts of one building, which is a continuation of the Spanish régime. This building was bequeathed to the church years ago by a philanthropic citizen, and was managed for years by the friars, who were not medical men. The condition of this building when the Americans arrived was horrible. It was a mass of dirt and vermin, and was comparable to such an establishment in the middle ages. There was much opposition on the part of the Church to American Government took over the institution on payment, and it is now in as good a sanitary condition as the structure and design of the building will permit. The building is being used temporarily for the lepers are to be removed to a leper colony. A lunatic asylum is to be built, and the opium habit is to be exterminated.

should cease. These recommendations were made law by an Act of Congress of the United States, dated October 10, 1907, entitled "An Act gradually to restrict and regulate the sale and use of Opium pending the ultimate prohibition of the importation of Opium into the Philippine Islands in whatever form, except for medicinal purposes as provided by the Act of Congress approved March, 3, 1905, and prohibiting any person from having the possession of Opium, Cocaine, or Alpha or Beta Eucaine in any of their several forms, or any derivative or preparation of any such Drugs or Substances, except for medicinal purposes, and to repeal Act numbered 1,461, and for other purposes."

This Act provided for the registration of all opium habitués on their swearing or declaring (in proper form) that they habitually used



Courtesy Bureau of Health.

CHINESE ADDICTED TO THE OPIUM HABIT UNDERGOING TREATMENT AT MANILA AT GOVERNMENT EXPENSE AS PROVIDED BY THE ACT PROHIBITING SALE OF OPIUM IN THE PHILIPPINES

hospital at Cavite and the military hospital at Fort McKinley are modern temporary wooden buildings, conforming more with present-day requirements than the civil establishments.

(b) *The Bureau of Science.*—This is a very large establishment. It was the first public building erected by the Americans since they took the islands ten years ago. It is built of re-inforced concrete, and consists of a ground and first floors. Its staff comprises a Director and thirty-six highly trained scientific assistants. The following are some of the departments: (a) Bacteriological, with stables for horses and cattle for the manufacture of sera and vaccines, e. g., diphtheria, plague, cholera, tetanus; rinderpest, glanders, and smallpox; (b) pathological; (c) chemical; (d) analytical (foods, milk, water); (e) woods and forests (the creosoting of native woods for railway sleepers and pavements); (f) agriculture; (g) silkworms and silk manufacture; (h) fibres and paper manufacture; (i) trade products, e. g., essential oils, lubricating oils from native products; (j) cement testing; (k) entomology; (l) botany; (m) standard weights and measures; (n) a library of scientific books, and journals in all languages; (o) two large engines, with electric plant and cold storage; (p) assaying, etc.

(c) *Asylums.*—In Manila, the lepers, in-

† Some 36 lepers have been under the Rontgen ray treatment for over a year, with very encouraging results. It is estimated that there are some 3,000 lepers in the archipelago, and in a short time all these will be gathered in and put upon an island, where they will form a leper colony. This colony has already been started, and consists of a large number of small houses of two or three rooms within a plot of ground in which each patient can grow food stuffs. A leper will remain in this colony until he is proved to be free from the disease. If married, he will not be allowed to take his wife (if not a leper) to the colony, and in like manner a leper wife cannot take her healthy husband; the colony is to be in every particular a "home" for each individual, without the restrictions and discipline necessary in an asylum. The President of the Bureau of Health is confident that by this measure leprosy will be stamped out of the Philippine Islands in a few years.

The Opium Habit.—More than three years ago the Philippine Opium Commission advised that steps should be taken to prohibit the use of opium, except for medicinal purposes, and recommended that the sale of opium should be a Government monopoly, and that the use of the drug, except for medicinal purposes prescribed by a licensed and registered physician,

opium and the amount daily consumed. A certificate in quadruplicate was then made out, one copy of which was retained at the office of issue, one was forwarded to the Treasurer of the Province in which the "user" was located, one was sent to the Collector of Inland Revenue, and the fourth copy was given to the person registered upon his paying the prescribed fee. The amount of the fees varied according to the time limit of the certificate, e. g., a certificate for the period dating from the issue of the Act of Congress (October 10, 1907) to the end of October, 1907, one peso (2s. 1d.). A certificate from the date of the Act of Congress to the end of November, 1907, 2½ pesos; for the month of December, 1907, 5 pesos; for the month of January, 1908, 7½ pesos; for the month of February, 1907, 10 pesos; after which last date no fresh certificate was to be issued. Further, the Collector of Inland Revenue was to reduce each month by 15 per cent. the quantity allowed to be consumed on the original certificate. The sale of opium, except for medicinal purposes, stopped in the Philippine Islands, on March 1, 1907. Heavy fines, with or without imprisonment, were to be inflicted for non-conformity with the provisions of this Act.

Among other purposes, the revenue obtained from the opium taxes was to be used to cover

the expenses of users of opium who voluntarily sought admission into hospital desiring to be cured of the habit. There were 200 Chinese undergoing treatment for the opium habit at the time of my visit to the institution mentioned in paragraph (c). They had all voluntarily sought admission, and they occupied two large rooms, one on the ground floor and one on the first floor. There was no communication allowed between the inhabitants of the two rooms. The treatment lasts from a week to ten days. A new arrival is first put into the upper room, and he is given a very reduced dose of opium or morphine at fairly long intervals, until he is without opium for fully twenty-four hours; he is then transferred to the lower room. A stimulant mixture of

Infectious Diseases Hospital.—This institution is in the same compound as the leper and lunatic asylums, and consists of a series of wards built of timber raised on brick columns, with iron roofs. All the pavilions communicate with each other by covered corridors and with the kitchen and administration block. There are separate pavilions for the different principal infectious diseases, e. g., plague, cholera, and smallpox. Each pavilion holds six patients. The nursing is done by American trained women nurses.

The Military Hospital.—This building is an old Spanish barracks converted to its present purpose and, as may be imagined, is not very satisfactory from a structural point of view, neither does it conform to the needs of the

sure of 10 lbs., and mix with it a little faeces of the patient and distilled water. If the embryos are present, small worms can be found in forty-eight hours by searching with a magnifying glass in the drops of water on the sides of the vessel containing the sand. At this hospital we saw a new method for operating on liver abscess; the American surgeons do not probe the liver for pus in various directions from the outside as is the general custom, but they open the abdomen, palpate the liver, and locate the abscess; at the same time they decide whether the route for the evacuation of the abscess shall be by an incision through the outer skin or through the exploratory abdominal wound.

A cheap and efficient lining for an operating room exists in this hospital. It consists of Minton tiles for the floor and for a short distance up the walls, and above the tiled portions sheets of tin are nailed to the wall and painted with white enamel. The operating room is fly-proof.

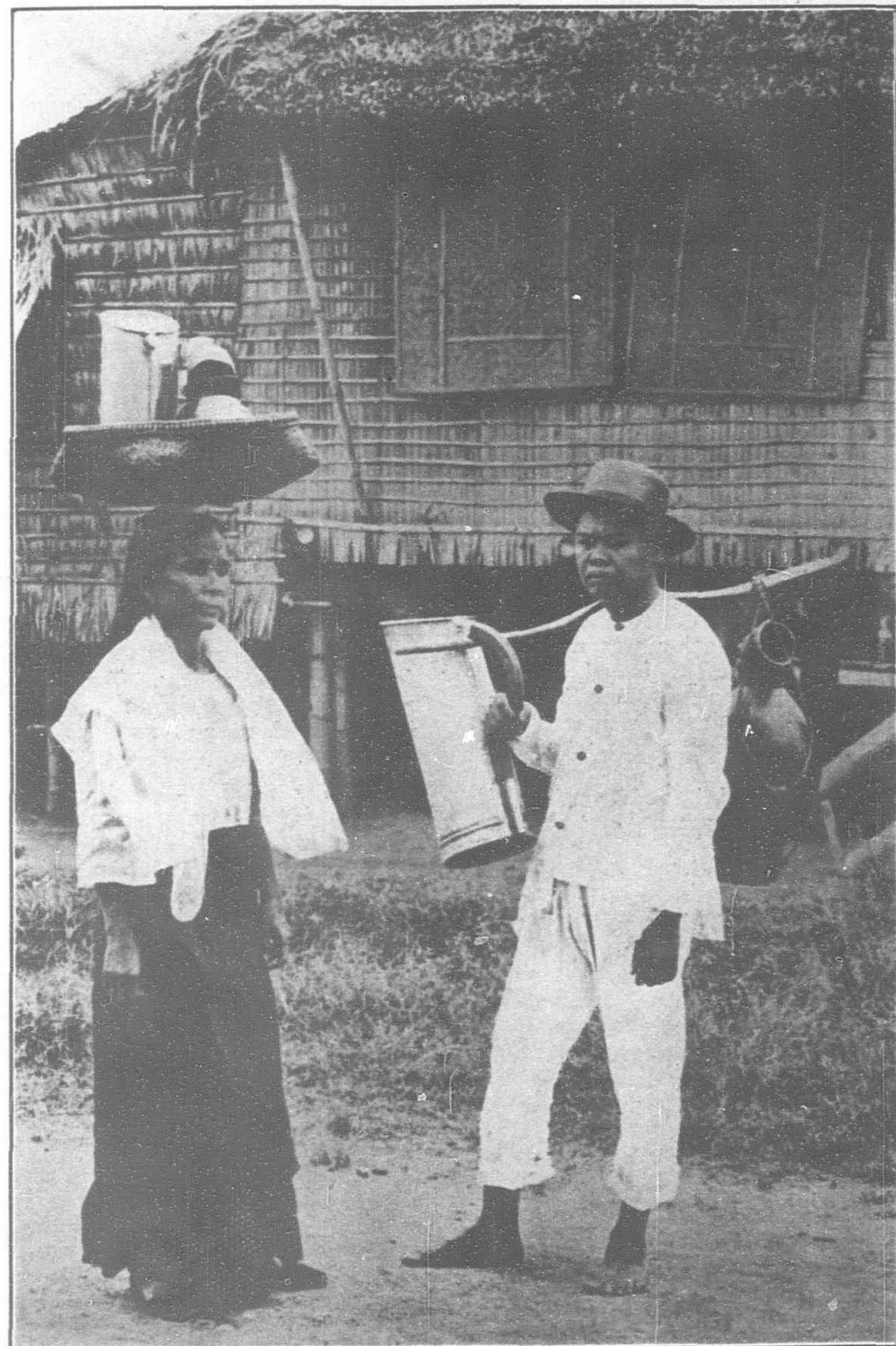
The Naval Hospital.—This establishment is across the Bay of Manila, at Cavite, which was the old Spanish naval base. The hospital is of recent construction, and is built of temporary materials; timber, with iron roofs. The wards are of large size, and give plan of cubic space and superficial area to each patient. All openings are mosquito-proof, and one ward has a portion further screened off from mosquitoes by fine gauze wire, within which the patients with malaria are kept. There is a small laboratory attached to this hospital, where microscopical observations are made, and where Sir Almroth Wright's "opsonic Indices" are made. A stranger is struck with the high excellence of the medical staff at every hospital where Americans are in charge. Each medical man is a scientific physician, and it is a rare thing to come across the old-fashioned empiric.

The Manila Prison.—The buildings forming this establishment are solid brick structures, and were handed down from the Spaniards. The arrangement from a disciplinary point of view is admirable. The buildings occupy a large circular area with a clear space in the centre with roads radiating from it. The buildings are between the roads. In the centre circle is a high tower, on the top of which a guard is mounted with a gatling gun, which can be trained along any of the roads in case of necessity. There are 4,000 prisoners in this prison, which is called the Bilibid prison. They are divided into three classes. The prisoners get promotion into the first class from the second and third by good behaviour. There are about forty admissions, and the same number of discharges each day.

The Bertillon system of identification is very thoroughly carried out, and the registration is perfect. Two officers only carry out the examinations, and there is a small staff of clerks to help with the records and registrations. In addition to measurements and finger prints, each prisoner is photographed full and side face, and these pictures are filed with the other particulars connected with each prisoner.

On admission each prisoner is given an anti-septic bath, his clothes are disinfected by steam, with the result there are very few vermin in the prison, all prisoners are confined in "Association" wards, and they sleep in rows on bamboo benches. The diet scale is very liberal. Rice is given at one meal only; other meals consist of stews made of Australian beef and vegetables. All prisoners are taught trades. There is no stone-breaking nor husk-beating; among the industrial departments are carriage building, furniture making, tinwork, ironwork, carpentry, bamboo work, tailoring, steam laundry, etc. Prisoners get a small percentage on a good day's work, which accumulates, and is given them on discharge.

Punishment for prison offences is carried out on the principle of appealing to the offender's feelings. Thus, an offender is made to carry a stone weighing about 15 lbs. backwards and forwards for a certain number of hours in front of his gang who are doing their ordinary useful work. The punishment consists in the



(Courtesy Bureau of Health.)

MILK VENDORS, OLD STYLE.—THIS MENACE TO HEALTH REMOVED

ether, ammonia, and aromatics is given to ease the craving for the drug, but this is a placebo only, not an antidote. The difference in the condition and expression of the occupants of these two rooms is very marked. Those in the downstairs room are fairly cheery and bright, and appear happy; but upstairs things are quite different—there is the patient peacefully sleeping just after having received his modified dose of opium, next him the sullen countenance of despair and hate at the doctor who will not give him his next dose before the proper time, and there is the opium maniac who pleads for the drug, threatens assault, or shouts and stamps, and behaves like a wild animal. The smokers of the drug are harder to cure than the eaters. The latter are generally cured in three days

requirements of a modern hospital; but the amount of good scientific work that is performed by the medical staff is large and of a high order.

The wards are of wood, the windows are mosquito-proof, and in addition each patient has a mosquito net over his bed. Every patient is examined for intestinal parasites, whatever the disease may be for which he was admitted to hospital, and is treated for them before he is discharged to duty. Intestinal parasites, particularly ancylostomes, are very common among all races in the Philippines, and to aid in the diagnosis the medical officers are not content to trust to a negative result on microscopical examination of the stools, but they cultivate the ancylostome in damp earth by sterilizing sand under a pres-

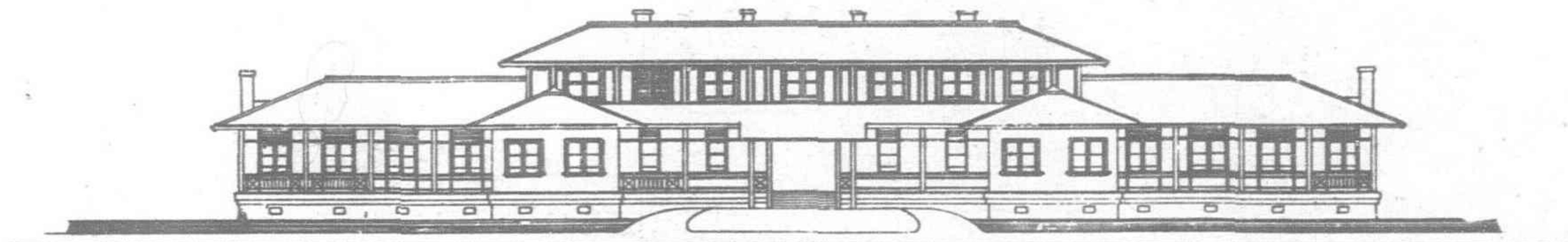
jeering remarks of the men of the gang as to why the offender is loafing about carrying the stone, which serves no useful purpose. It is said the moral effect of this form of punishment is very great among the Filipinos. Very refractory prisoners are put into solitary dark confinement with bread and water. Flogging is never resorted to. Prisoners get an allowance of three packets of cigarettes a week, and are permitted to smoke while at work (unless they are under prison punishment.) Forty prisoners form a band, which plays very well. Each evening the prisoners are mustered at 4:30 p. m. and file past the kitchen, where each man has his dinner issued to him. This parade takes place to the strains of the band, and is a

dious. The daily output of ice is 100 tons. The cold storage area is enormous. The inhabitants of all Government institutions, including the troops and constabulary, are supplied with Australian beef. The last contract for this beef was at five cents (gold) a pound delivered at Manila, and for every two forequarters of the animals supplied, three hind-quarters have to be given.

The Printing Bureau.—This establishment is very modern, and is replete with the latest improvements. A specimen of the work executed is attached to this report in the form of a programme of the medical meeting.

Laying of a Corner Stone of the New General Hospital, Manila.—Although nearly ten years have passed since the occupation of Manila

Government Dispensaries.—The city of Manila is divided into five districts. In each district there is an outpatient dispensary for the treatment of the sick. At each dispensary there is a medical staff and a corps of sanitary inspectors, who are responsible for the sanitary condition of the district. The department under the Bureau of Health and its Director, Dr. Victor G. Heiser, is so well organized that outbreaks of infectious disease are immediately known and checked. At each dispensary a large van equipped with all apparatus for dealing with accidents or an infectious case is kept ready night and day with two horses in attendance. At the sound of the alarm bell the horses take up their places at each side



(Courtesy Bureau of Health)

FRONT ELEVATION OF PROPOSED HOSPITAL AT BAGUIO, BENGUET

very interesting and unique spectacle. All latrines and kitchens are rendered fly-proof. The latrines are not divided into separate compartments.

The Prison Hospital.—The hospital is too small, its type and structure leave much to be desired. It is overcrowded to a serious extent, but a new hospital is to be erected soon. The wards are gnat-proof, and each prisoner has a cot and mosquito curtain. In addition to his disease, a prisoner is examined and treated for intestinal parasites, and all new admissions to the prison are examined and treated for worms. It is an interesting fact that when the American Government first used this prison the death-rate among prisoners was 200 per thousand; after attention was paid to improve the sanitation and to protect the prisoners from flies and mosquitoes the death-rate came down to 60 per thousand. It was then suggested that as intestinal parasites were very common (90 per cent. of the prisoners suffered from ancolostomiasis alone), the prisoners were more likely to contract other diseases owing to the want of resistance caused by the worms. Batches of 200 prisoners at a time were then admitted to hospital to be examined and treated for worms until all evidence of their presence ceased. After the whole 4,000 had been submitted to this treatment, the death-rate came down to 12 per thousand. The medical records of each sick prisoner, including his temperature, pulse rate, and respiration, are noted daily, and very full medical histories are taken. All diseases from which a prisoner suffers are carefully noted on his prison documents and filed with his other particulars.

A Prison Colony.—One of the many islands that form the Philippines group has been selected for a prison colony. It is of small area, and the neighboring islands are inhabited by a tribe of head hunters. From 600 to 800 long-sentenced prisoners of good behaviour are transported to this colony, where they are given houses to live in and land to cultivate; there are no guards. If prisoners are married, their wives and families are allowed to join them, and I presume those unmarried who wish to marry are allowed to do so. A reward is offered for the capture and return of any who escape. Soon after its establishment some twenty got away, but the head hunters brought them back, mostly represented by their heads only, since when there have been no escapes.

Ice Plant and Cold Storage.—One of the first buildings erected by the American Government was an ice plant and cold storage establishment, which is very complete and commo-

by the United States of America, no permanent hospital has been built. As has been already said, the present hospitals are either temporary buildings or have been taken over from the Spaniards. The want of a new and modern hospital for the city of Manila has been felt for a long time, but its construction has been delayed for want of funds.

Earlier in this report mention was made of the Bureau of Science, and I heard serious criticism on the action of the American Government in spending such vast sums of money for the advancement of medical research rather than investing it in hospitals for the poor. From a medical and administrative point of view, I consider the Government was correct in this policy, for it is obvious that popular feeling would have been more inclined to vote money for hospitals than for science had both been on the programme, with the result that the Bureau of Science would not have been an accomplished fact for many years. But with the bureau already in existence the pressing question of a new hospital had to be approved. Both institutions are in intimate relation, and the hospital will benefit greatly by having the bureau already established. On Monday, March 2, the corner stone of the new hospital was laid by the Minister of the Interior. The Governor-General, the Minister of the Interior, Dr. Fernando Calderon (Professor of Obstetrics), and I made speeches.

The Philippine Medical School, Manila.—“An act, establishing a Medical School and defining the manner in which it shall be controlled and conducted,” was passed on December 1, 1905.

“An Act to authorize the granting of the Degree of M. D. (Philippine Islands) and to establish certain Free Scholarships” was passed on April 25, 1907. In June, 1907, the first academic year began. One Government free scholarship is awarded for each Province to the best student who obtains over 75 per cent. marks in every subject at an arts competitive examination; other students have to pay fees. The course of study is for five years. There are several students, mostly Filipinos—one is a Filipina. The teaching staff is composed of very highly trained scientific physicians.

This school has not been sufficiently long in existence to produce any graduates, but judging from the matriculation examination, which includes Mathematics, English, French, German, or Spanish Literature, History, Latin, Physics, Chemistry, and Biology, and from the synopsis of work in professional subjects, the medical education should be of a high order.

of the pole, the harness is lowered mechanically on their backs, the saddles are pressed together with springs, the driver is on his seat and they are off of a gallop in twenty seconds from the time the call is received.

Vaccination.—This is very thoroughly carried out. The population of the Philippines is about six millions. In Spanish times and for a few years afterwards there were 6,000 deaths from smallpox yearly. The Bureau of Health vaccinated these six millions of people, and last year there was not a single death from small-pox.

Artesian Wells.—Artesian wells work most satisfactorily in the small towns near Manila and at the naval depot and large military post at Fort McKinley. They should be introduced in certain places in Ceylon.

The Legislature.—There is a Lower and an Upper House called respectively the Philippine Assembly and the Philippine Commission. The Lower House is composed of elected natives, who are paid, under a speaker, who is a Filipino. The Upper House is composed of Americans, and this house can veto any Bill passed in the Lower House. The Governor-General is the President.

The Municipality of the City of Manila.—The Municipal Board consists of a President and four members. At present a Filipino is the President. The members are composed of three Americans and one Filipino. The President is the Committee on the following subjects:—Law, Education, New Sewer and Waterworks, Health. The American members constitute the Committee on Engineering, Public Works, Police, Fire, Electric Installation and Illumination, Finance and Taxation, Transportation and Sanitation Licenses. The remaining (Filipino) Member is the Committee on Markets and Expropriation of Lands. The Board sits every day excepting Sundays. The Revenue for the year 1903 was \$1,383,407.11 Mexican. The disbursements for the year 1903 was \$82,244.49 (Mexican). The revenue for the year 1907 was P4,103,220.80 (pesos). The expenditure for the year 1907 was P3,871,964.92 (pesos). The expenditure during 1907 did not include the new sewer and waterworks construction.

The Americans found Manila in a most primitive condition as far as sanitation was concerned, and they have achieved marvellous results in ten years. The streets are broad, with perfect roads, many of which are wood-paved; side drains are well constructed; new bridges have been thrown over the river, and

old brick roads have been widened; an efficient police force keeps order; the lighting is good; there is an electric railway covering 35 miles; the fortifications have been reclaimed to a very large extent; the insanitary moat 3 miles long round the old fortifications has been filled; new roads and new building sites have been made; also open spaces and public parks; and a new underground sewage system and a new water supply (from a distance of 16 miles beyond the intake of the present water supply) are in course of construction.

In July, 1904, the City Engineer went on leave to the United States, where he made special studies in matters relating to the designing and construction of the proposed water and sewer systems, of the price of materials, the best form of contracts, and the possibility of securing competent engineers. He returned to Manila in November. On April 1, 1905, he was appointed Chief Engineer of the new water and sewer systems, the schemes for which were approved respectively in June and July, 1905.

On January 2, 1906, tenders were opened for the new waterworks, and four American companies were selected to carry out various portions of the scheme at a total cost of \$1,025,810 (gold). The work should be completed in July, 1908.

The construction of the sewer scheme was entrusted to the Atlantic, Gulf and Pacific Company for the sum of \$1,631,052.20, to be completed by July, 1, 1909. Pumping stations are not included in the above estimate. The ultimate cost of these two schemes when completed is \$4,371,000 (gold).

The sewer system is practically on the same lines as the Mansergh scheme for Colombo, viz., by six pumping stations and gravity. There will be about 52 miles of sewers, and in addition a 42-inch cast iron force main outfall pipe 65,000 feet in length laid below the bed of the harbor on a pile foundation; the discharge into the Bay of Manila will be accomplished by means of powerful centrifugal pumps. This system of sewers will not carry rain nor storm water. An independent scheme for this is to be undertaken.

THE FAR EASTERN MEDICAL ASSOCIATION.—One result of this year's Medical Congress at Manila has been the formation of a "Far Eastern Medical Association," its object being to bring together all legally qualified medical men practising east of Suez, (not including India). A Council has been formed consisting of three American medical men in the Philippine Islands and all the delegates from foreign countries who attended the recent Congress. The President elect is Dr. Paul C. Freer, Director of the Bureau of Science and Dean of the Philippine Medical School, and the Secretary is Dr. Francis Clark, Medical Officer of Health, Hongkong. The subscription of members is 10s. 6d. a year. Transactions will be published and issued to members free. It is proposed to hold a biennial meeting in the various colonies, and it is hoped that the several Governments concerned will favor the project. Subjects for presentation will be announced three months before a meeting, and discussion directed towards the attainment of something definite in regard to the cause and prevention of certain tropical diseases. The delegates voted in favor of the establishment of this Association, with the proviso that their Governments approved of their action.

The Government of the Philippines issued a formal invitation to the President and Council of the Far Eastern Medical Association to hold its first meeting at Manila in 1910.

OTHER MEDICAL INSTITUTIONS VISITED.—**HONGKONG—Opium.**—There is no movement in this Colony to repress the opium habit, and considering the very large Chinese community domiciled in Hongkong any attempt to stop the traffic would meet with great difficulty, interference with trade, and the smooth relations now existing between the employers and Chinese Labor. During my visit the Chamber of Commerce addressed the Government with the request that it would use all means in its power to support the Hongkong whole-

sale dealers in the drug against the action of the Viceroy of Nankin, who was trying to obtain a monopoly in the drug for himself under the disguise of an anti-opium campaign. He proposed to exclude all foreign opium from his territory and to deal in the Chinese article only. Representations made to the British Minister at Peking pointing out that the action of the Viceroy violated old treaties between the Emperor of China and Britain have for the time checked the designs of the Viceroy of Nankin.

The Sanitary Board.—There is no Municipality in Hongkong. A large section of the community would like such a body to be created, but the Government is against it. The Sanitary Board was established some years ago, and consisted of the Principal Civil Medical Officer as Chairman, the Director of Public Works, and other members, including a representative from the Chinese community. Owing to dishonesty on the part of some subordinate officers of the Board, the late Governor ordered a Commission to inquire into the working of the Board and to make a report. This Commission sat for a year and submitted a very comprehensive report (which I have not seen), and during my short stay at Hongkong a discussion took place on this question in the Legislative Council, at which the Government announced its intention of removing the Principal Civil Medical Officer from the Chairmanship and from the Board altogether, to appoint a Cadet as Chairman, and the Medical Officer of Health (who is a servant of the Board) as adviser on medical and sanitary matters. I was told the Government practically ignored the recommendations of the Commission. Public feeling seemed to be running high. I cannot offer any opinion on the matter because of the want of more intimate knowledge, but it would appear that the Principal Civil Medical Officer should be on the Board, although not as Chairman.

Hospitals.—The large general hospital is situated in the Chinese quarter of the city. It is an old building with a lot of woodwork, and in consequence difficult to keep surgically clean. There is a large paying section attached, with fees varying according to the accommodation provided. The medical staff consists of a European in charge and a Burgher gentleman; the nurses are all European. The hospital is well found in equipment, but a new building more in conformity with modern requirements is required. The fees charged are considerably higher than those in Ceylon.

The Victoria Hospital for Women.—This establishment had its beginning as a "Home for the Dying." It is a Chinese custom to remove those who are dying from their own houses. This hospital is managed by a committee of Chinamen with a staff of Chinese "Native" doctors. It is recognized by the Government, and a Government medical officer's services are available for consultation. The dispensary of this establishment is remarkable for its assortment of drugs, among which are oyster shells, dragon's teeth, snake and rats' skins.

The Bacteriological Institute.—This is a handsome building, consisting of a ground and first floor. It is well equipped. A large amount of work in connection with plague and infectious diseases is carried on. Vaccine lymph for ordinary vaccination is made here.

Hongkong is one of the cleanest cities in the world. The houses are mostly built of stone, and are many stories high; the streets are well paved, with good roads exceedingly well kept. There is a good electric tramway. It is one of the few places which makes a profit out of its night soil. This is collected by a contractor and taken to Canton, and he pays Hongkong \$40,000 a year for the privilege. There is a good water supply, which is filtered; and there is a small system of underground sewers. Considering the large daily influx of thousands of Chinese from Canton, it is remarkable there is so little sickness from infectious diseases. This floating population is allowed to land without any medical examination.

Medical School.—The Hongkong College of Medicine is not a Government institution. It is a small establishment with about thirty students. The course of study is for five years, and the fees are \$120 a year. It is remarkable for the number of its officials: it has a Patron, a Rector, a Dean, a Standing Counsel, Solicitor, Auditor, Secretary, Treasurer, and Director of Studies, in addition to which there is the Court, the General Council, and the Senate.

SINGAPORE.—For its size Singapore is well off for medical institutions, which include a general European hospital, a native general hospital, a maternity hospital (in course of construction), a leper hospital, an asylum for the insane, a beri-beri hospital, a pauper hospital and a quarantine station.

The General European Hospital is a comparatively new building; the wards are on the first floor. There are "Association" and "Single" rooms, the prices for which vary, but they are higher than the fees charged for private wards in Ceylon hospitals. There is a good operating room fitted with the latest type of aseptic furniture and instruments. The nursing is done by qualified European nurses. The medical staff, including the house surgeons, are Europeans.

The General Hospital is an old building, a legacy of the East India Company. The wards are cool and airy, but it is not up to modern requirements. The latrines are bad, the receptacles are wooden boxes tarred inside. There is too much tar about the establishment.

The New Maternity Hospital will be a good one when completed.

The Leper Hospital, Lunatic Asylum, and Beri-Beri hospitals, did not impress me, but it is only fair to say I saw them in the dark, so cannot judge.

The Pauper Hospital, called the new "Tan Tock Seng" Hospital, is a magnificent range of buildings, with accommodation for some 500 patients. It is built on raised arches, in pavilions of one story.

The pavilions have cement floors, with iron uprights and iron roofs. The latrines (which are good) and kitchens are built of brick with tiled roofs. The sides of the wards are made of "Bertam," "Annyam" (plaited thin bamboo) made to open; these "Screens" are painted, and last about ten years. The buildings are palatial and most expensive. They occupy a beautiful site, and cover a large area of ground. The vastness of this establishment will make the work hard for the medical and nursing staffs.

The Medical School.—Some of the buildings of this establishment are parts of the old lunatic asylum, others have been built for their present purpose, e. g., lecture rooms. The school has only been opened recently. The course of study is for five years. All the teachers and lecturers are Europeans. There are about 130 students, who at present pay no fees, and the students receive a small monthly allowance.

There is some difficulty in getting Chinese students owing to their lack of education in preliminary subjects. There is a fair number of Jaffna Tamil students, who are attracted by the free education and monthly allowance. There is a big field in the hospitals of the Federated Malay States for the students when they become qualified.

The Quarantine Station.—This is a camp for immigrant coolies and persons coming by ship suffering from infectious diseases; it is situated on St. John's Island, which is reached in about an hour from Singapore by a steam launch. The camp is built on the same lines as that at Ragama, but it is superior to Ragama in the way of site and in its buildings, which are a good deal more expensive. The camp consists of a series of camps within a camp, and each section can be kept isolated. The details of this establishment are well described by Mr. Slater. The latrines have wooden boxes as receptacles, lined with tin or tarred.

THE FEDERATED MALAY STATES.—Owing to the great wealth which these states possess, medical enterprise shares in the general wel-

fare. A large and expensive scheme for exterminating malaria has been carried out at Port Swettenham at a cost of £4,000. This place, which had an unenviable reputation as a bed of fever, has been converted into a salubrious health resort; and other districts which previously had been very unhealthy have been rendered innocuous by the completion of similar schemes on a smaller scale.

KUALA LUMPUR.—*The Bacteriological Institute.*—The most interesting medical establishment in the Federated Malay States is the bacteriological institute. This building is the tribute of a generous Government towards the advancement of pure Medical Science, and is the only one of its kind in all the British Crown Colonies and Protectorates. It is a two-storied building; on the ground floor is the main laboratory, chemical laboratory, bacteriological laboratory, Director's laboratory, photographic and microphotographic rooms.

On the first floor is the library, museum, and the Director's office. The outbuildings consist of two animal houses, a store and post-mortem room, preparation room for media, the engine and cold storage, and the quarantine station for animals suffering from rinderpest, surra, etc. The Director is Dr. H. Fraser, who has a chemical assistant and a full complement of subordinate assistants and servants. The work at present in hand is a searching inquiry into the cause of beri-beri from the chemical side of the question. This work has been going on for months, and will not be finished before the end of this year.

The Pauper Hospital.—This is a large hospital built of timber, in charge of a European medical man. There are some 800 patients in the wards. From a structural point of view it leaves much to be desired, but a vast amount of good work is done within its walls.

The European Hospital.—This is a new brick building on a beautiful (though contracted) site on the top of a hill. The wards are large and airy, and are always full. The medical and nursing staffs are European. A very large part of the accommodation is taken up by the administrative and nursing departments.

The Municipality of Kuala Lumpur is to be congratulated on the sanitary condition and beauty of the town. The roads are broad and smooth, the drains are sound, the water supply is pure and ample. Kuala Lumpur looks like a big public park. The night soil is collected and buried at a distance, but all refuse is incinerated at an incinerating station, which consists of a plant with six cells and furnaces.

Taiping.—This hospital consists of European and native sections, which are divided by a public road. The buildings are built of wood, and afford excellent accommodation. One great feature of this establishment is the beautiful manner in which the grounds are laid out with flowers, shrubs, grass, and trees. A European medical man with a staff of European nurses work the European portion of this hospital. The native section is in charge of a Ceylonese medical man; there are no female nurses; the nursing is done by native "dressers."

I desire to express my respectful thanks to His Excellency the Governor for having given me the opportunity of seeing the medical arrangements of so many places, from all of which I have learned much. I trust the experience gained will result in producing some benefit to the Medical Department of Ceylon.

ALLAN PERRY,

Principal Civil Medical Officer

Colombo, April, 15, 1908.

BRIGHTON MALCOLM & CO., LTD.

The well-known business firm of Messrs. Brighton, Malcolm & Co., of Shanghai, has transferred its business to Brighton, Malcolm & Co., Limited, recently registered under the Companies Ordinances of Hongkong. The new style name became effective October 15th. The long name is Dah Tsaw.

Rubber Growing Industry in the Federated Malay States

The greater part of the wealth of the Federated Malay States depends upon the agricultural industry, and perhaps the most important feature is the rubber growing which has made remarkable strides during the last decade. A review of the progress of agriculture in the F. M. S. for the year 1907 places the total area under cultivation at 261,763 acres of which 126,235 are in rubber. This does not include Malacca, Johore or the province of Wellesley. Recent figures presented recently at the meet-

F. M. S. Total Laborers end of 1907, 52,000, of which Tamils and Javanese = 55,000; large increase 1908.

6. VALUE OF RUBBER EXPORTED
(3 States as per declaration Government Gazette).

1906	\$1,855,436
1907	3,882,000
6 mos.	2,080,000



VALLAMBROSA RUBBER STATE, KLANG

ing of the Planters Association of Malaya gives an idea of the amount of capital invested in the industry and the relation the F. M. S. bear to the entire rubber producing area. The figures as presented by the *Malay Mail* are approximate and follow:

1. CAPITAL INVESTED.

Paid up F. M. S.	\$21,483,353
Straits (Colony)	3,734,160
Johore	1,942,543
	\$27,160,056
say \$30,000,000 probably all in 3 years	£3,500,000

2. ACREAGE UNDER RUBBER.

(Exclusive of Johore and the Colony.)

At end of	
1907	Rubber 126,235 acres
	Coffee 10,833 acres
	Sundries 24,695 acres
	161,763 acres

Of above, rubber in 1907 alone, 40,473 acres i. e. $\frac{1}{3}$ in single year.

3. EXPORT RUBBER FROM F. M. S. ONLY

(Not including Johore and Colony)

1906	1,028,792 lbs. = 460 tons.
1907	1,984,285 " = 885 "
6 mos.	1,382,158 " = 617 "

to 31 Dec.; say, 1,300 tons.

4. DUTY PAID (F. M. S. only)

1906	\$50,023
1907	97,750
6 mos.	1908 52,000 to 31st Dec., say \$115,000. Depreciated market first six months now rising.

5. AS EMPLOYERS OF LABOR

and so contributing indirectly, but still considerably to the Revenue. Malay Peninsula, 75,000.

These figures were presented in support of a petition to the High Commissioner for an additional planter as representative on the legislative council of the colony. It is evidence of the growing claim of the rubber planters for recognition.

It might be said that the culture of rubber in this territory started in 1897 at the end of which year there were but 342 acres under cultivation in the Federated Malay States. The remarkable increase in the acreage may be gathered from the following figures offered by Mr. Carruthers in the report of the department of agriculture for 1907:

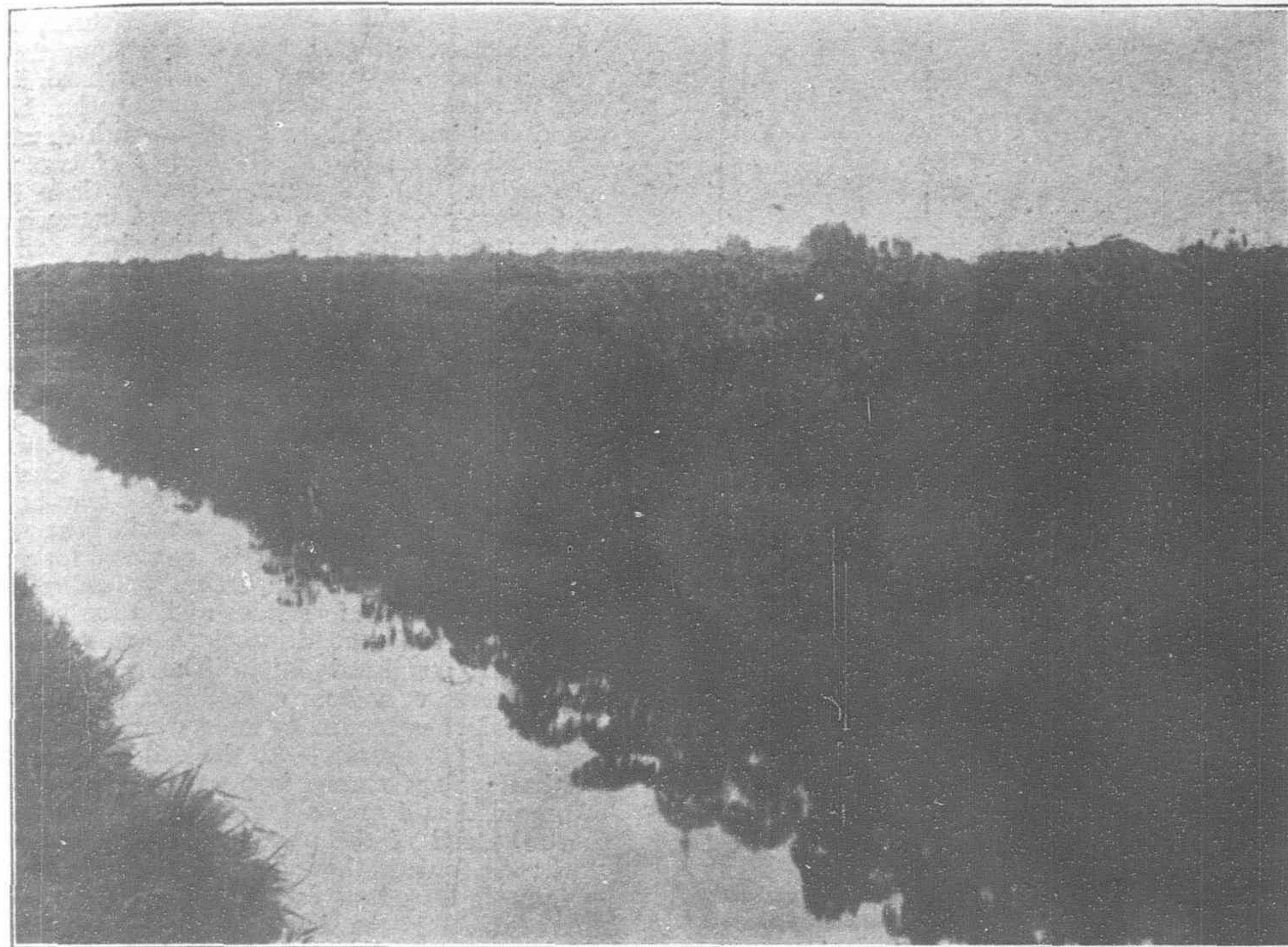
1897	345 acres.
1898	1,761 "
1899	3,227 "
1900	4,693 "
1901	5,965 "
1902	7,239 "
1903	11,239 "
1904	19,239 "
1905	43,338 "
1906	85,492 "
1907	126,235 "

The *Malay Mail* of October 8th reproduces a report submitted by the Commissioner of Trades and Customs which gives the rubber export for Perak, Selangor and Negri Sembilan for the first nine months of 1907 and 1908 respectively in tabulated form. In 1907 the export for that period mounted to 1,354,718 pounds, while for the same period this year 2,127,489 pounds were exported, or an increase of 772,771 pounds. This indicates that there has been more than the proportionate increase in acreage yielding rubber for 1908 than in any previous year.

The great fear of the planter has been the probability of over production, but this has not been borne out by the experience of recent months. This has been explained by Mr. Carruthers in his report when he says that

"the fear of over-production, which bulked very large a year or more ago, has, owing to more accurate knowledge of the world's demand for rubber and the amount produced, to some extent subsided. The drop in prices, while having the effect of reducing the amount of rubber planting, may also to a great extent reduce the output from Brazil, where the margin of profit is much less than in cultivated

plete presentation of the product from the different rubber growing countries of the world. At the Ceylon Rubber Exhibition of 1896 the representatives of prominent estates offered the suggestion that every legitimate means should be indulged to increase the demand for rubber along suitable lines of manufacture and this idea has been growing to such an extent that the promoters of the International Exhibi-



JIN HENG ESTATE (NEAR SWEE LEE RUBBER NURSERY) WAS ONCE THE MOST FAMOUS SUGAR ESTATE IN THE PROVINCE OF WELLESLEY, NOW BEING PLANTED IN RUBBER

rubber. This also should lead not only to a consideration of cheapening of methods of production, but to the possibilities of increasing the demand for rubber. No product lends itself more to measures for improving and widening the market. The almost endless possibilities to the economic uses of rubber, and the small proportion of the purchasing population of the world which at present knows and uses rubber, both demonstrate to the fact that measures taken to provide new outlets for rubber are much more hopeful than in the case of food or textile products like coffee or copra, which have a comparatively limited number of uses. It is not to the interests of cultivated rubber that the output of the Brazilian product should decrease very rapidly. There is not yet sufficient cultivated rubber or wild rubber from other sources to supply the increasing demand. Those who look forward to a future with immense areas of cultivated rubber in suitable climates, of which the Malay Peninsula can claim to be the best, believe that cultivated rubber will in time satisfy all the manufacturers in regard to its physical qualities and will be produced in sufficient quantity to meet the world's requirements.

"It is not easy to foresee the future demands for rubber, but a substance which has made itself so indispensable to all civilised races must be required in increasing quantities, and the fear of over-production may be cancelled by the quite as likely possibility of the supply not meeting the demand and the consequent resort to other substances as substitutes for rubber."

The International Rubber Exhibition in London attracted world-wide attention and at no previous time has there been a more com-

bition have been doing everything in their power to encourage experiment. There is little doubt but that the present optimistic tone among rubber growers is largely due to the enthusiasm with which the plans of the promoters have been carried out and the evidence of exceptional interest in the industry on the part of manufacturers from all parts of the world who have visited the exhibition.

The *London Times* of September gives an idea of the co-operation in spirit prevailing among rubber growers of every nationality in the following reference to the exhibition:

"A very strong advisory committee has been constituted, consisting of all the chief authorities on rubber, both in this country and abroad. Committees have also been formed on behalf of a considerable number of foreign Governments, including France, Germany, the Netherlands, Mexico, and Belgium, while many of our Colonies have also sent representatives to serve on the advisory committee or to act on their behalf, among which we may mention Ceylon, the Federated Malay States and Straits Settlements, and others.

"The exhibition is a successful attempt to bring the entire subject of the growth and treatment of rubber and all the stages of its manipulation to the knowledge of the public and the scientific aspects of the question have been steadily borne in mind and kept to the front. The characteristic feature of the display is the serious character of the exhibits and the absence of the bazaar element, if it may be so termed, which has been rather too much in evidence in some of our exhibitions of late."

"The Malaya section of the Exhibition occupies a central position at the head of the hall, and makes an excellent showing at the side of the handsome Ceylon Court. Its great feature is a typical Malay house, which has been sent over and erected for the inspection of visitors, and which will doubtless attract considerable attention. Round this are grouped the exhibits from the Straits Settlements, Federated Malay States, and Johore. A large number are from the Botanic Gardens at Singapore, and Malacca and Johore have contributed their quota, but the bigger portion of all the varied rubber specimens on view come, of course, from the Federated States, each of which is well represented. The value of the whole of the exhibits sent over may, perhaps, be put at £1,500. Some very fine samples have been contributed by some of the estates, and the whole section is certainly a credit to Malaya, where the rubber industry has made such rapid strides in recent years. An attractive feature of the section is the large and well-arranged series of photographic views, illustrating the country and people and the rubber estates themselves. Mr. Leonard Wray, I.S.O., formerly Director of Museums, F. M. S., and Mr. R. Derry, Curator of the Singapore Botanic Gardens, are in charge."

The future of rubber in the F. M. S. seems very bright and it has been estimated that by 1912 with a relative increase of consumption of the product that this territory will supply at least five per cent of the world's demand. At the present time tropical America supplies 63%, Africa, 34% and all the Asia rubber growing area but 3%. The area planted in trees which will be maturing in a few years is enormous and perhaps more marked there than in any other part of the world. For instance there were 40,000 acres planted in the F. M. S. in 1905 and in 1906 this activity was increased to the planting of 85,000 acres. This planting is increasing proportionately every year so that there is promise of this rubber bearing territory exceeding in returns the most sanguine expectations.

The cost of producing rubber and placing it on the market in London has been variously estimated. The statement of Mr. W. W. Bailey, a well-known planter and formerly chairman of the F. M. S. Planters Association is quoted as saying that several well directed estates are putting rubber on the London market at a cost of 1s. 1d. a pound. To the representative of the Times of Ceylon in an interview he said:

"Two or three estates are producing rubber to my knowledge at one shilling a pound. One of the biggest estates in the F. M. S. is putting rubber on the market in London at 1s. 1d. at the outside. As the trees get older the cost of tapping becomes reduced. It depends a good deal on the age of the tree how much the tapping will cost. I am absolutely against tapping young trees. It is a deliberate waste. There are men now who, in order to show quick returns, are tapping trees not stouter than a beer bottle, and in order to get a quarter of a pound of rubber are using up ten times as much bark as would produce 2 pounds later on."

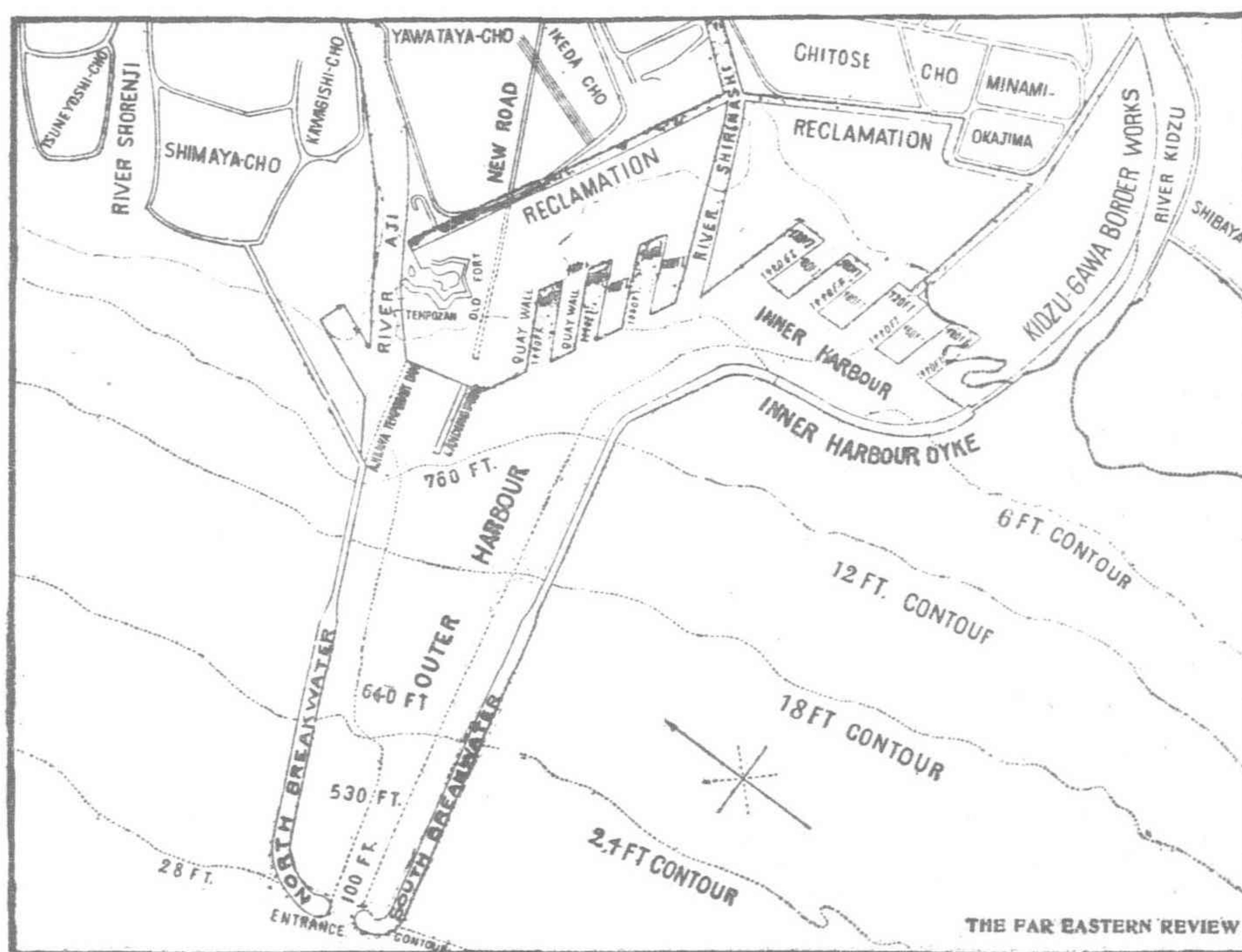
Mr. Bailey believes that the F. M. S. can compete with the world in rubber producing. He believes that, if the price does not fall below three shillings, Malaya will knock out the Brazil product within three years. He even went so far as to say that if rubber dropped to 2s. the planters would continue to produce at a handsome profit.

But the price of rubber has improved, the latest market report from London places the price for rubber at 4s. 5.5d. for the better grades. This is not discouraging.

HARBOR IMPROVEMENTS IN JAPAN'S COMMERCIAL PORTS

With the increased foreign trade of Japan the necessity of better facilities for shipping appealed to the government and during the last decade many millions of yen have been expended in providing adequate accommodation for the growing mercantile trade by sea. In

According to the original plan of the reclamation and improvement work which has been subjected to but a few minor changes the foreshore in front of the Customs, covering 68,600 tsubo, is to be reclaimed. Inasmuch as a portion of the work, covering 47,803 tsubo,



PLAN OF THE OSAKA HARBOR IMPROVEMENTS.

1854 when the Yokohama and several other points were selected as open ports, the natural adaptability of these points for the sheltering of vessels seemed to be the only consideration involved. However, when the foreign trade increased to such proportions that the natural harbors were far from adequate to meet the demand for berthing and anchorage, the government took a hand with the result that today Japan may boast some of the finest harbors in the world. The principal harbors today are Yokohama, Kobe, Osaka, Nagasaki, Hakodate, Otaru, Atsuta, Nagoya, and Wakamatsu, all of which have been greatly improved or are now in progress of enlargement and deepening with extensive reclamation works in connection.

Yokohama Harbor Works. In 1889, plans were prepared and approved for the improvement of this important port and, by 1896, two breakwaters were constructed to offer greater protection. One was built to the east measuring 5,380 feet in length and the other to the north measuring 6,700 feet. In addition an iron pier 62.5 feet wide and over 1,800 feet in length was built in front of the custom house. This construction provided about 1,300 acres of safe anchorage within the lines of breakwaters and improved and the reclamation of a portion of the foreshore, that was afterwards to be extended, was initiated. With the steady increase of shipping to this important port it became necessary to further the reclamation work and in 1898 extensive plans were approved. When these plans are completed the port will be able to handle over two million tons of goods a year with ease. The cost is estimated at about 11,000,000 yen and according to the original scheme was to be completed in 1910. There has been some delay on account of the financing of the project, but this will probably not postpone the date of completion. Of the sum necessary 2,340,000 yen were appropriated in 1898 and 8,180,000 yen in 1905.

was accomplished, there remains only 20,797 tsubo to be reclaimed. The height of the reclaimed land is to be 12 feet 6 inches above the sea level at ebb tide, and the length is to be 620 ken, the depth of water alongside being above 16 and under 28 feet. The effective space available will measure 506 ken (or 3,036 feet). The length of the already reclaimed land is 517 ken (or 3,102 feet), the effective length being 445 ken (or 2,670 feet). Altogether the total length of the wharves will be 1,137 ken (or 6,822 feet) and the length available 951 ken (or 5,606 feet). It will thus provide berths for 13 vessels with an aggregate tonnage of above 54,500 tons, besides providing ample wharves for discharging and loading cargo for junk traffic and embarkation piers for steamship passengers.

Accommodation on Land. (1) Sheds.—The sheds to be constructed on the reclaimed land are classified into two kinds—iron and wooden sheds. The former are to be built along the wharves, keeping a space of about six ken (30 feet) from the edge. These are to be used for storing general cargo, and will consist of thirteen divisions, altogether covering 10,10 tsubo. The wooden sheds are intended for the cargo of the junk traffic exclusively, and are therefore less elaborate in structure. All the sheds will be fitted with electric lights, thus facilitating the inspection and storing or discharge of cargo in the night time. (2) Warehouses.—In addition to the sheds, four warehouses, altogether covering 3,097 tsubo, are to be constructed on the reclaimed land. A three-storied building is also to be built, and this building is to be fitted with elevators worked by electric motive-power of two tons capacity. (3) Railways.—Two or three lines of railway are to be constructed between the wharves and the sheds, and the sheds and the warehouses. One of these lines is to be used for discharging and loading the cargo, and another for railway traffic. All the lines are to be so laid as to concentrate at the centre of the reclaimed land, there connecting with the trunk line leading to and from Yokohama railway station. A branch line again is to run across a new railway bridge to the Customs compound to connect with another branch line to be laid in the compound. The whole length of the railway line is to extend for eleven miles. (4) Roads.—In order to facilitate the transportation of goods and travellers, six roads of different dimensions are to be laid on the reclaimed land. The width of the roads is to vary from 12 to 8 ken. In the wider roads footpaths are to be provided for pedestrians. (5) Cranes.—At the end of the eastern wharf a fixed crane of 30 tons capacity is to be provided and also a crane of 20 tons capacity at the end of the western wharf. In front of the sheds altogether 33 movable cranes, varying from $1\frac{1}{2}$ to 5 tons capacity, are to be provided to facilitate the handling of cargo. All the cranes are to be worked by electricity.

Besides the above, water pipes and drains are to be laid down on the reclaimed land and the Customs compound railway and other bridges are to be constructed. The provision of the accommodation on land is to be commenced on the already reclaimed land.

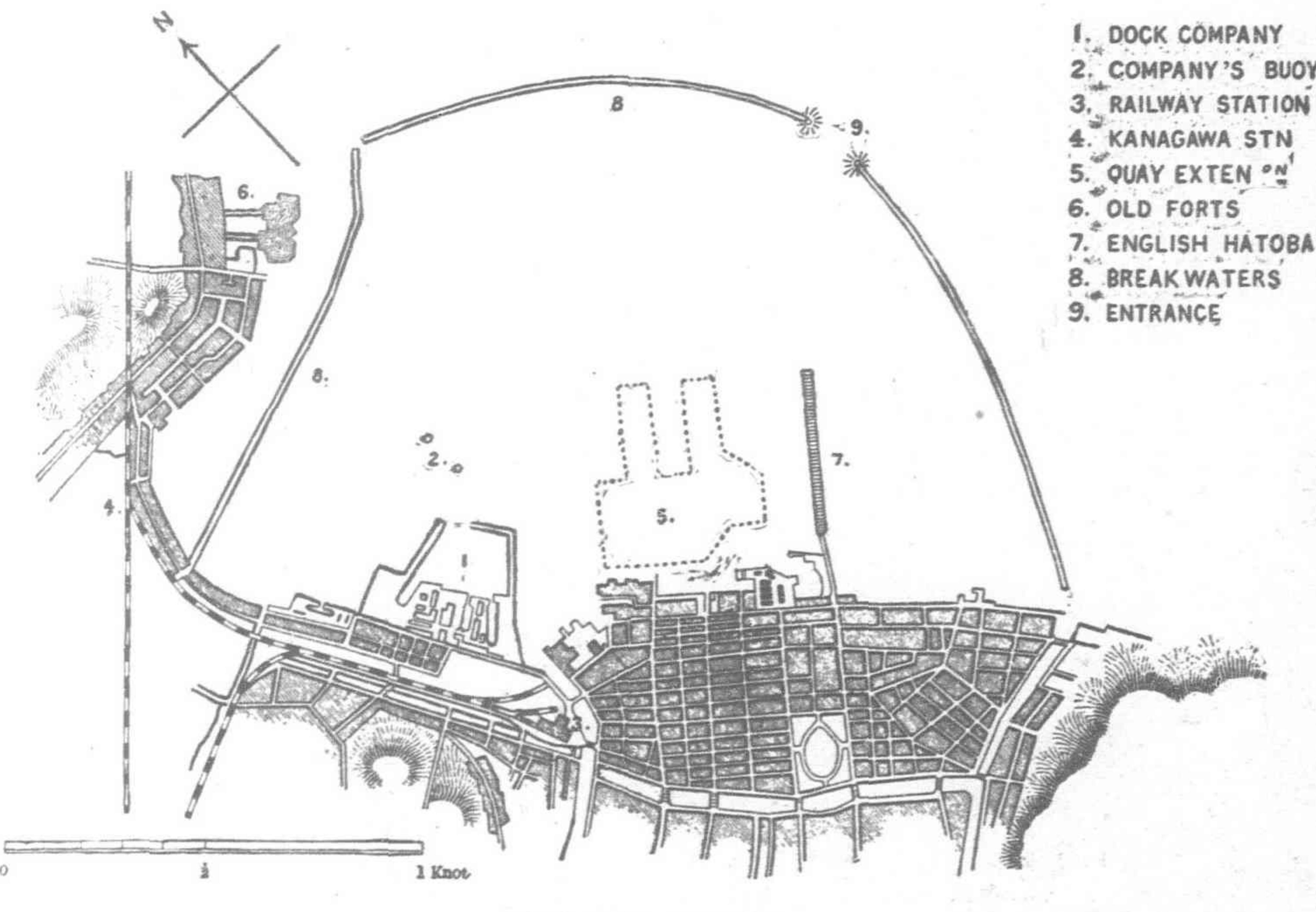
Kobe Harbor. The increasing trade between Tokyo, Seoul, and Peking made it necessary to have a central harbor with the necessary facilities to handle the shipping. An extensive scheme was proposed by the minister of finance and operations were started in 1906 to carry it out so as to have all the works completed by 1914. The Hyogo work is expected completed in 1910. The estimated cost of the works under way is about 32,000,000 yen including the works at West Onohama and Hyogo and the reclamation and harbor works at East Onohama. The scheme includes in a general way the construction of a further breakwater from Wanda



Point and the extension of the breakwater in front of the harbor to meet the Wanda Point construction, thus enclosing a protected harbor of no insignificant dimensions. The greater part of the old bund will, when the work is completed, be transformed into jetties and wharves, together with a part of Kaigan Dori. The reclamation work at Hyogo will be the most important work of that nature in connection with this public enterprise and the wharves thereon will extend to the Kawasaki

over 22,000 feet in length, constructed. In addition an iron pier 90 feet wide and 1,500 feet in length was built. In all a safe anchorage of 1,430 acres has been obtained. In addition, further improvements have been planned which will provide for adequate quay-walls, sheds, and other accessories. The capacity of this harbor is about 3,000,000 tons annually. The cost exceeded 20,000,000 yen.

The scheme provided for the division of the harbor into what is called the inner and



YOKOHAMA HARBOR

Dockyards. A detailed description of the scheme is offered as follows:

1.—An area will be reclaimed from the sea at the western part of Onohama, and one long jetty, 1,620 feet in length and 360 feet in width, and three shorter jetties, each 1,200 feet in length and 360 feet in width, will be constructed. The jetties will have roofing on both sides and will be equipped with electric lighting and 130 powerful cranes. A railway will connect the jetties with the existing line (there will be some 22 miles of railway in all). A portion of the reclaimed area will be reserved for the erection of godowns.

2.—At the eastern part of Onohama, about 110,000 tsubo of land will be reclaimed from the sea. A jetty of 1,680 feet in length and 360 feet in width, and a shorter one, about 900 feet in length and 690 feet in width, will be constructed. These jetties will be roofed and equipped in a similar manner to those at the western part of Onohama.

3.—A breakwater, 3,240 feet in length, will be constructed off Onohama.

4.—In the direction of Hyogo two iron piers, 420 feet in length and 60 ken wide, will be constructed, together with a landing place of six hundred feet. The piers will have roofs and will be equipped with cranes, etc. A railway line, three miles in length, will be laid for the purpose of connecting the piers with the branch of the Sanyo railway. The works here will chiefly accommodate Chinese and Korean shipping.

It is estimated that when these works are completed it will be possible for Kobe Harbor to handle 3,000,000 tons of goods annually.

Osaka Harbor. In 1905 the scheme for the improvement and development of Osaka Harbor was completed after seven years' activity. Altogether about 1,300 acres were reclaimed and two breakwaters, north and south, in all

over 22,000 feet in length, constructed. In addition an iron pier 90 feet wide and 1,500 feet in length was built. In all a safe anchorage of 1,430 acres has been obtained. In addition, further improvements have been planned which will provide for adequate quay-walls, sheds, and other accessories. The capacity of this harbor is about 3,000,000 tons annually. The cost exceeded 20,000,000 yen.

The scheme provided for the division of the harbor into what is called the inner and

in exports while Kobe equally overtopped the other in imports; and the same was the case last year. The volume of trade at each of the principal ports was as follows: The total trade of Yokohama in 1907 shows, when compared with that of the preceding year, an increase of yen 28,460,000 (£2,915,984), being actually yen 378,370,000 (£38,767,418), or 40 per cent of the entire trade of the country; its exports stood at yen 205,880,000 (£21,094,262) and its imports at yen 172,480,000 (£17,672,131), an increase of yen 22,780,000 (£2,334,016) on the amount in 1906. Kobe exported in 1907 to the value of yen 106,660,000 (£10,928,279) and imported to the value of yen 223,430,000 (£22,892,418), making a total of yen 330,100,000 (£33,821,721), which is an increase of yen 27,310,000 (£2,798,156) and equal to 35.6 per cent of the trade of the country. Next to these two ports comes Osaka with its trade at yen 94,470,000 (£9,679,303), or 10 per cent of the entire trade, being an increase of about yen 1,000,000 (£102,459) on the preceding year; its trade consists almost entirely of imports. Then follows at a distance Moji with yen 45,460,000 (£4,657,787), or 5 per cent of the entire trade; and after it come Nagasaki with yen 20,880,000 (£2,139,344), Yokkaichi with yen 12,640,000 (£1,295,082), Shimonoseki with yen 6,760,000 (£692,623), Otaru with yen 6,130,000 (£628,074), Kuchinotsu with yen 5,210,000 (£533,811), Wakamatsu with yen 4,140,000 (£424,180), Hakodate with yen 2,940,000 (£301,210), Taketoyo with yen 2,920,000 (£299,180), Tsuruga with yen 2,770,000 (£283,811), Shimizu with yen 2,730,000 (£279,713), Karatsu with yen 2,260,000 (£231,557), Muroran with yen 1,920,000 (£196,721), and Niigata with yen 1,270,000 (£130,123). And of these ports those which show any marked increase in their imports when compared with those in the preceding year are Moji with an increase of yen 5,000,000 (£512,295), Nagasaki and Yokkaichi with about yen 3,000,000 (£307,377) each, and Taketoyo with yen 1,300,000 (£133,197), while those which show a similar increase in exports are Otaru whose exports increased by yen 2,000,000 (£204,918), Yokkaichi by yen 1,500,000 (£153,689), Tsuruga by yen 1,300,000 (£133,197), and Shimizu by yen 1,000,000 (£102,459), and the exports from Hakodate fell off by yen 1,000,000 (£102,459)."

JAPAN'S FLOUR AND WHEAT IMPORTS

There is a falling off in the importations of wheat and flour into Japan during the last few years, owing no doubt to home industry. *The Journal of the Yokohama Chamber of Commerce* furnishes the following tables:

WHEAT IMPORTS

	Picul.	Yen.
1898	48,117	143,913
1899	30,642	86,490
1900	223,503	692,342
1901	85,875	272,869
1902	1,265,629	4,767,839
1903	399,851	1,536,773
1904	1,026,460	4,012,092
1905	355,293	1,371,748
1906	904,049	3,669,277

FLOUR IMPORTS

	Picul.	Yen.
1898	338,544	2,023,413
1899	290,011	1,370,857
1900	842,993	3,882,517
1901	629,727	2,873,302
1902	721,047	3,378,324
1903	2,091,520	10,324,420
1904	1,911,195	9,625,398
1905	1,591,526	8,190,982
1906	1,232,803	6,212,238

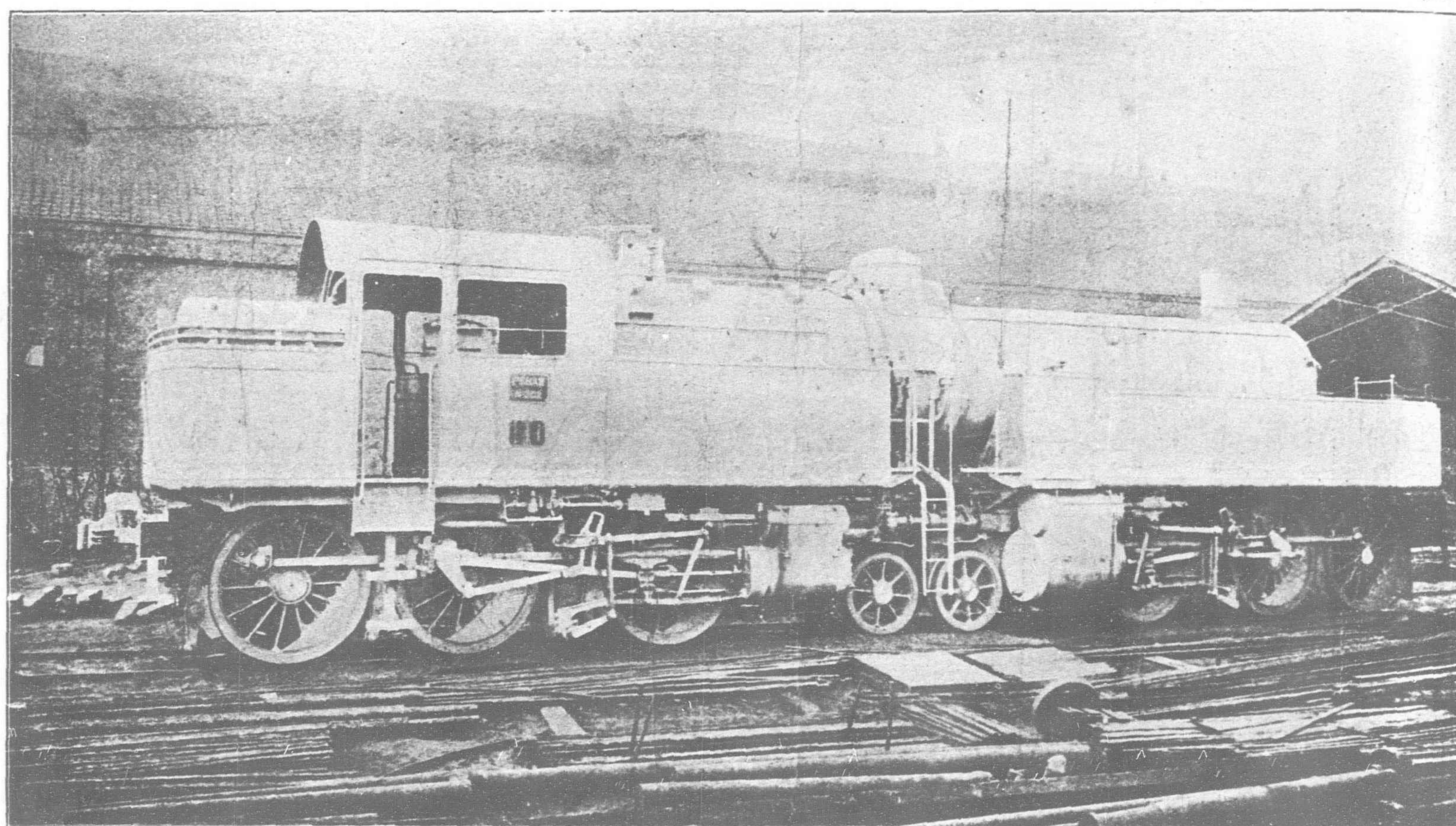
NEW LOCOMOTIVE FOR PEKING-HANKOW RAILWAY.

There has lately been introduced into service on the Peking-Hankow Railway a special type of Articulated 0-6-2: 2-6-0 tank locomotive as illustrated and for the picture and this description we are indebted to our esteemed contemporary "Indian Engineering," says the *Shanghai Times*. This locomotive follows closely the design of the articulated engines introduced some three years ago by Mons. du Bousquet, the Chief Mechanical Engineer of the

Hankow Railway follows somewhat the standard pattern used on the famous de Glehn compound express passenger engines of the Nord of France line, although it has an increased grate area, and is provided with somewhat longer tubes than is ordinarily the case. The boiler barrel has a length of 15 feet 10 $\frac{1}{4}$ inches and a diameter of 4 feet 9 $\frac{1}{4}$ inches whilst its centre line is "pitched" no less than 9 feet 2 $\frac{1}{4}$ inches above rail level. The total heating surface is 2,632.06 square feet to which the tubes (130 in number and of the "Sserve" pattern) contribute 2,503.3 square feet and the

Heir Apparent and a special memorial temple was directed built at Anhui, his birth place. General Ma was one of the most distinguished of China's military officers, and his name is widely known throughout the east. This honor to his memory is an unusual mark of distinction on the part of the Imperial Family towards the Chinese military arm and is taken as an indication of the greater measure of interest taken at Peking in matters military.

The death of Mr. Hebray Reginald Baynes O'Brien, one of the proprietors of the *Rangoon*



Courtesy *Shanghai Times*

TYPE OF ENGINE BUILT BY THE SOCIETE ANONYME DE FORGES, USINES ET FONDERIES DE ET A HAINE-ST. PIERRE, BELGIUM, FOR THE PEKING-HANKOW RAILWAY

Nord of France Railway, for working the heavy coal traffic from the Lens coal basin, in which service they have proved to be eminently successful. The engine is of the four-cylinder compound pattern, and in addition to having six coupled wheels each bogie is fitted with a pair of carrying wheels in front of the cylinders. The coupled wheels have each a diameter of 4 feet 9 $\frac{1}{4}$ inches and the carrying wheels a diameter of 2 feet 9 $\frac{1}{4}$ inches. The high-pressure cylinders which are 15 $\frac{3}{4}$ inches by 26 $\frac{1}{4}$ inches, drive the rear bogie, whilst the low-pressure cylinders, which are 24 $\frac{3}{4}$ inches, by 26 $\frac{1}{4}$ inches, actuate the front bogie, but when a large tractive effort is necessary each pair of cylinders can receive live steam, thereby very materially increasing the tractive force of the machine. The boiler and side tanks, etc., are carried on a main underframe, which in turn, rests upon the bogie frames. Steam passes from the boiler to a rotatable joint at the back of the firebox, and from this joint a separate steam pipe supplies steam to each high-pressure cylinder. In order that the front bogie may be sufficiently loaded, a portion of the water tanks is arranged on this bogie—sufficient space being allowed between the boiler and the tanks to admit of the angular movement of the front bogie. The front tanks have a capacity of 1,980 gallons of water, whilst the remainder of the water tanks, which are arranged on either side of the firebox, and are supported by the central girder, have a carrying capacity of 836 gallons. The boiler of the locomotives for the Peking-

firebox the remaining 129.06 square feet. The grate area is 32.29 square feet and the working pressure of the boiler 214.7 lbs. per square inch. In working order the engine weighs 102 tons, although the maximum load on any pair of wheels is only 15 tons! The engine was built by the Société Anonyme des Forges, Usines et Fonderies, de et à Haine-St.-Pierre, of Belgium.

OBITUARY

The death of Mr. William Jackson, director of the Mercantile Bank of India, removes one of the pioneer bankers of the east whose career has been one of great activity. The deceased joined the Old Mercantile Bank of India in 1856, and when the bank was incorporated under the style of The Chartered Mercantile Bank of India, London and China, he was appointed manager of the Shanghai Branch, and later in 1864 he was appointed inspector. In 1875 he was promoted to the position of assistant manager in London and in 1882 to manager, which position he held for ten years, after which time he became a director of the Mercantile Bank of India, the style name of the organization which absorbed the old institution in 1892.

Posthumous honors were paid the memory of the late General Ma Yu-kun in an edict issued in the name of the Empress Dowager of China. The rank conferred was that of Guardian to the

Times, last month, is reported in the Rangoon exchanges. Mr. O'Brien was connected with the *Times* press for over twenty years and was identified with the growth of this prosperous business.

Malay exchanges announce the death of Mr. Silas C. Penny, formerly editor of the *Penang Gazette*, from pneumonia in London in August. Mr. Penny was the founder of the *Times of Malay*, which survives him, and the now defunct *Eastern Daily Mail*.

Manila has been unfortunate in the passing of two of her leading businessmen in the death of Mr. Thomas C. Kinney, one of the most prominent members of the Manila Bar and a public spirited citizen whose initiative served in large measure to advance the interests of the country, and in the passing of George E. Wolf, the senior member of the firm of Messrs. Castle Bros.-Wolf & Sons, one of the leading American wholesale merchants of the archipelago.

Mr. Kinney was counsel for the Philippine Railway Company, The Manila Electric Railway Light and Power Company and was president of the Bua Mining Company of Benguet besides being largely interested in the *Manila Times* and other enterprises throughout the islands.

Mr. Wolf was a resident of the islands for over a decade and developed during that period the largest American wholesale business in the islands. He met his death as the result

of an unfortunate encounter with a crazed carabao, while out hunting. His untimely death is a matter of personal regret to many thousands of Americans in the archipelago. While one of the most active and enterprising businessmen, he was ever ready to give substantial encouragement to his struggling contemporaries and his life was devoid of ostentation.

† Mr. C. G. R. Broderson, manager of the firm of Messrs. Siemssen & Co., in Hongkong, died at Shanghai very suddenly on October 2nd. Mr. Broderson came to the East about 26 years ago and has been associated with the firm for that period. For sixteen years he was stationed at Hongkong, at the end of which period he was transferred to Shanghai. Subsequently he returned to Hongkong and remained there in charge until his demise. He had been ailing for some time and was at the time on a visit to Shanghai to consult with his physicians. Mr. Broderson was a member of the Court of Directors of the Hongkong and Shanghai Banking Corporation and a director of a number of companies in Hongkong and a gentleman who enjoyed the confidence of a large circle of business associates and friends.

PERSONAL

Mr. C. W. Kinder, C.M.G., the veteran railway promotor of China and Chief Engineer of the Imperial Railways of North China, was recently appointed Special Representative of the Board of Posts and Communications to confer with the representative of the South Manchuria Railway to discuss questions covered by the fifth article of the Japanese-China railway agreement.

M. Klobukowski, the new governor-general of Indo-Chine, arrived at Saigon the latter part of September and was given an enthusiastic reception.

Mr. Francis Loomis, the U. S. Commissioner General of the Grand Exhibition, Japan, arrived at Yokohama on October 3rd.

Mr. D. C. Dick, vice-president of the Shanghai Society of Engineers and Architects, and Mr. C. H. Godfrey, the honorary secretary, recently resigned their respective offices in view of their departure for Europe. Mr. T. H. U. Aldridge has succeeded to the vice-presidency and Messrs. C. Harper and I. Tuxford have been elected joint secretaries.

Mr. E. L. Brockman, resident of Perak, was invested with the C. M. G. by the High Commissioner last month, says the *Malay Mail*.

Dr. H. M. Hillier, commissioner of Chinese Customs, has been granted permission by H.B.M. to accept and wear the insignia of the first class of the third division of the Imperial Order of the Double Dragon.

His Excellency Tong Shao-ji, Special Commissioner to America, sailed last month on his mission on behalf of the Chinese Government.

Mr. Alexander William Still, a well-known British journalist, has accepted the position of managing editor of the *Straits Times*. Editor Still occupied the editor's chair on the *Birmingham Daily Gazette* after which he became a member of the editorial staff of the *London Morning Post*. In 1906 he accepted the position of editor of the *Allahabad Pioneer* and returning to England the following year became a member of the editorial staff of the *Pall Mall Gazette*.

Lieut. Governor Rocadas, the new governor of Macao has assumed his duties.

Major W. H. Anderson, senior member of the well-known firm of W. H. Anderson & Co., returned to Manila, November 15th, after an interesting trip to Java and other points in Eastern Asia.

A report from Seattle announces that Mr. L. M. Wood, editor of the *Seattle Trade Register*, is a candidate for appointment as a commercial agent representing the department of commerce and labor to work up export business for American manufacturers.

¶ Mr. Alfred Cunningham, editor of the *Egyptian Daily Mail* and formerly of the *South China Morning Post*, has been honored by the Emperor of Japan who has conferred on him the order of the Rising Sun.

Mr. A. Jack, assistant engineer of the British section of the Tientsin-Pukow, recently arrived from South Africa, has joined his chief, Mr. Tuckey, at Nanking.

¶ Mr. A. Froelich, formerly assistant engineer of the Shantung Railway Company and later with the German section of the Tientsin-Pukow, has joined the Manchurian Railway as consulting engineer.

Mr. Asano, president of the Toyo Kisen Kaisha, has returned from an extensive European tour.

Dr. Victor Heiser, Chief of the Bureau of Health of the Philippines, is in attendance at the International Tuberculosis Congress in progress in Washington.

Lieut.-Colonel H. Milbourne Jackson, R. E., has been appointed surveyor general of the Federated Malay States. Colonel Jackson joined the Indian Survey in 1883 and had much experience in the work. He served in the Ordnance Survey of Great Britain in 1899, and at the outbreak of hostilities was attached to the headquarter's staff in charge of topographic work. He was later appointed surveyor-general of the Transvaal.

The Hon. Hamilton King, American Minister to Siam, and family, are due to arrive at Bangkok this month.

Messrs. Swan & Maclarens, well-known architects of the Straits Settlements, have decided to establish their offices at Kuala Lumpur.

Mr. C. G. Warnford Lock of the British Malayan Mining Company is on a prospecting tour of the country in the vicinity of Tongkah.

Mr. Thomas Wright of the *Hongkong Free Press* is on a vacation in the homeland.

Mr. T. H. Reid, general manager of the *Straits Times Press*, Limited, and Editor of the *Straits Times*, has resigned and takes up his residence in England.

Mr. R. T. Laffin, former general manager of the Manila Electric Railway, paid a short visit to the Philippines recently for the purpose of looking up his mining interests in Benguet. He returned to America last month.

REVIEWS

Who's Who in Mining and Metallurgy for 1908, issued from the presses of the *Mining Journal*, London, is a credit to the founder, Mr. George Safford, and contains 107 pages of biographies of the leading mining engineers and metallurgists in all parts of the world, alphabetically arranged. Besides the biographies, are 179 pages devoted to the history of each of the leading mining and metallurgical societies in different sections of the globe with a revised list of the officials of each to date. The work is neatly arranged and the typographical work excellent. It is the most valuable volume of its kind published in years and is a book of reference that should find a place in the library of every enterprising mining engineer.

Elements of Philippine Agriculture, by Edwin Bingham Copeland, Ph.D., Superintendent of the Insular Agricultural School of the Philippine Islands, has reached our desk and represents the result of much research and labor on the part of the author in a very successful attempt to place a text book covering the

elementary study of tropical agriculture. The book is well illustrated and the method has much to recommend it to Philippine Schools or indeed to English schools in other tropical countries. The World Book Company, New York.

Scherzer Rolling Lift Bridges, in revised form, has been received and is a handsome volume. It is splendidly illustrated and devoted to the history of movable bridge building with the development along the lines laid down by the inventor, the late William Scherzer. The plans of several important bridges designed by the Scherzer Rolling Lift Bridge Company Chicago are included in the illustrations.

The Philippine Agricultural Review for August contains a number of interesting articles on Philippine Agriculture among which are "Spanish Agricultural Work in the Philippines" by Edwin Bingham Copeland; "Horse Breeding in Madagascar" by Major T. Bentley Mott, U. S. A., and "Agriculture and School Gardens" by S. C. Kelleher. The number is well illustrated.

The Japan Financial and Economic Monthly for August is up to that journal's usual standard and among other valuable articles is one on the Finance and Economy of Formosa; on Manipulation of National Loan Amelioration Funds and the Exchequer Surplus. The usual trade and financial reports are brought up to date and it is altogether a most valuable number.

The Public Works Statement for 1908, by the Honorable W. Hall-Jones, Minister of Public Works of New Zealand, is a comprehensive review of the activity of the New Zealand Government in public works construction for the year. In all the sum of £1,966,461 16s. 10d. was expended under this head and includes railways, telegraphs, lighthouses, harbors, defences, water power, tourist and health resorts, development of gold fields, improvements, etc. The report is appropriately illustrated.

The "World Today" contains an interesting article from the pen of the Hon. Amos P. Wilder, American Consul General at Hongkong, published under the caption "A Consul's Busy Day." The article is illustrated by characteristic scenes from Hongkong and the subject is presented in an interesting form. It should prove interesting to those who believe that the position of American Consul General is a sinecure.

Social Shanghai for September made its appearance in the form of a handsome holiday number liberally illustrated. The frontispiece comprises two views of Chunkungshan and the reverse presents a view of the total wreck of the S.S. *Saikio Maru* at the Saddles. Among the leading articles of interest are: "Some Distinguished Officers of the American Fleet," "Captain Scratch of the 'Prickly Heat,'" "Well-known Residents of Shanghai," "Shanghai Rifle Association," "The American Settlement," "A Shooting Trip," etc., besides a representative department for social notes, "Our Young Folks Corner" and many other attractive literary dishes that make up a most interesting number. It reflects great credit upon the enterprise and literary taste of the editorial direction which is directly under the supervision of Mrs. Sharrock. *The China Weekly*, also under the same management, is being well received according to an editorial announcement.

In the August issue of the REVIEW, we inadvertently accredited an article on gold mining in Mongolia to the *Peking and Tientsin Times* when it should have read *The China Critic*. Both interesting publications are among the most valuable that reach our exchange table. We trust that our tardy correction may be acceptable, not only to our esteemed contemporaries but to the *Critic's* enterprising Urga correspondent.

NEW COAL PORT OF MIIKE

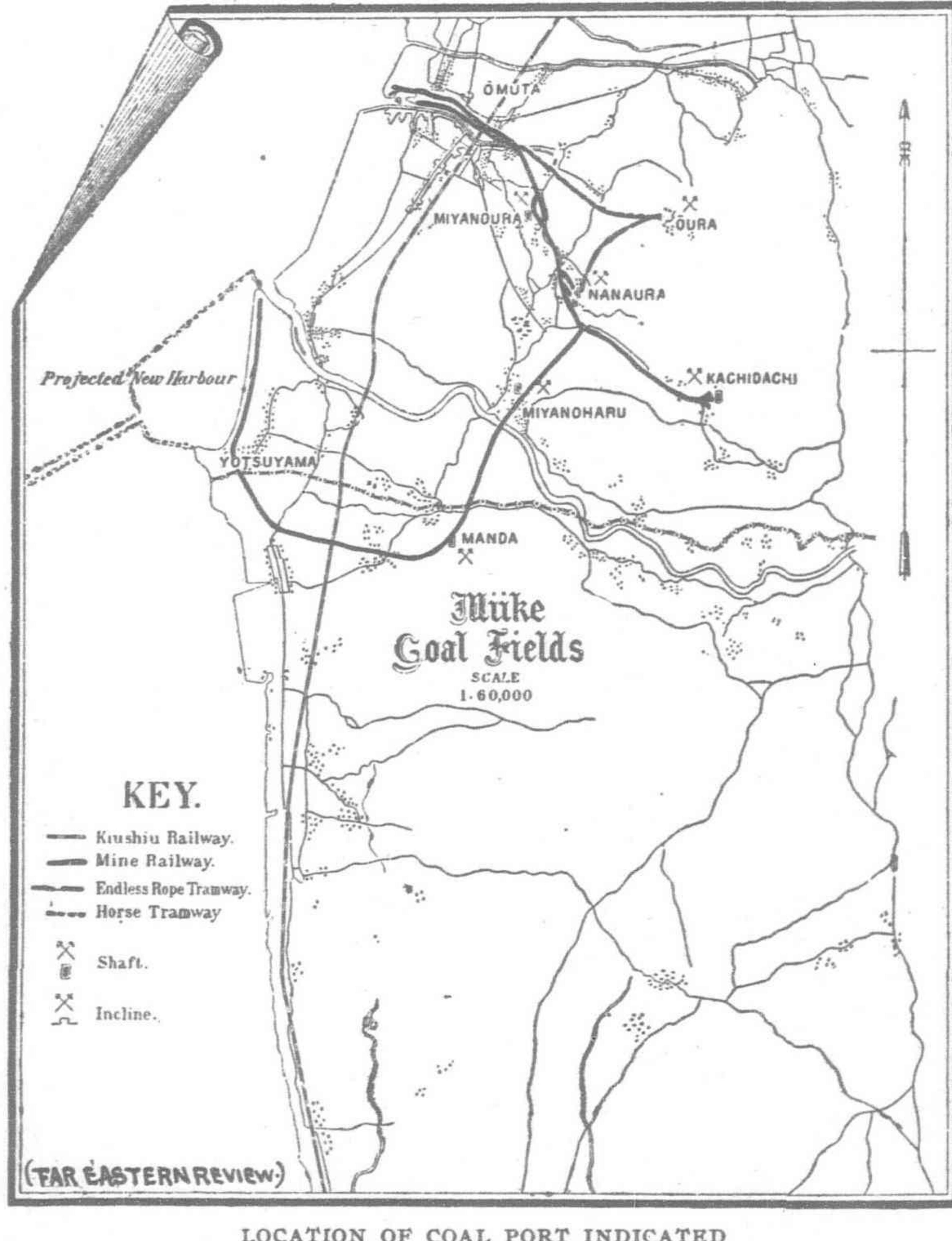
A great piece of work has been just about completed by the Mitsui Bussan Kaisha, a company controlled by the Mitsui family, the Rothschilds of Japan, at the new coal port of Miike in the province of Chikugo, Japan. The Mitsui company, which is one of the greatest in Japan, have large and varied interests, embracing gold, silver, coal, copper, lead and other mines as well as cotton and spinning mills in various parts of Japan. One of their principal coal ports is the town of Kuchinotsu, a couple of hours steaming from Nagasaki, where in the course of a year a large number of ships call in for bunker and coal cargoes. The coal is loaded in lighters and small schooners at Miike, which then make their way to Kuchinotsu, where it is loaded into the steamers by gangs of men and women by means of small baskets, a somewhat primitive process, often entailing a delay of several days. This,

let in the waiting waters from the Bay of Ariake. The function was a great success. The official opening of the works will take place early in March next year, when the patent loading machines, which have been built on the Clyde and are now on the way out by the Ben line steamer *Ben Avon*, which is due to arrive about November, will be landed direct on the quay where they are to be situated. When the question first arose of securing a new port of shipment, where cargoes could be handled quickly and ships lie in safety, several places convenient to the mines were suggested and after careful surveying a site was selected at the village of Mikawa, Miike district, in the south of Chikugo province, bordering on the Ariake bay on one side and Higo province on the other and only thirty-eight nautical miles from Kuchinotsu, the present port of shipment. The new harbor is situated on low

38 acres. The ground that has now been reclaimed consists of an area confined within a massive embankment extending from the southern bank of the Suwa river in the north to the foot of Yatsuyama, in the south, a distance of 1,570 ken 9420 feet. The embankment is protected on the outside by a heavy retaining wall measuring fifteen feet on the top, the height being six feet above high water mark, spring tides. Of the 296 acres reclaimed 50,000 tsubo, 41 acres have been apportioned for the wet dock and the connecting channel from the sea, while the remaining 308,000 tsubo, 254 acres, has been devoted to coal storage and other purposes, the filling in of the land being done by means of suction dredgers which pumped dredged material from the sea to where it was required. The land to be reclaimed in the second stage, which is to be commenced in the near future, will extend from the northern limit of the present completed portion to the northern extremity of the outer harbor, and this will be the site of the projected new town. The work in the third stage will extend from the southern end of the outer harbor, the material used for the purpose, being obtained by means of suction dredgers from the outer harbor. This part of the ground will be for the exclusive use of the company, other portions having been granted to the government for the erection of a Custom house and other buildings.

THE WET DOCK.

The wet dock, which has an area of 28,000 tsubo, 23 acres, at the bottom with a surface area of 37,800 tsubo, 31 acres, at high water and 37,300 tsubo, 30.8 acres at mean level will be used principally for coal loading, etc. The depth inside the dock will never be less than twenty-eight feet, as the dock-gate will ensure that the water level will never be less than ten feet above low water mark, while the quay wall has a normal depth of thirty feet and thirty-eight feet at high water. The quay wall is 1,380 feet long at the eastern extremity of the wet dock, built to accommodate at one time three steamers of about ten thousand tons each. The wall is forty-one feet six inches from the foundation at the bottom of the dock to the top with a vertical slope of $\frac{1}{8}$ for sixteen feet at the lower part and 1-20 for twenty-four feet at the upper portion, this being done so as to conform as nearly as possible to the shape of modern built vessels. The wall has been built of concrete faced with massive granite blocks brought from the west coast of Japan. The whole front of the wall is protected by heavy wooden fenders while along the top of the wall at regular intervals are monster iron bollards strongly fixed, for the proper securing of ships. On the top of this wall are to be installed two of the Miike quick loading machines, which were designed and patented by Dr. Dan and Mr. Kuroda, of the Mitsui Bussan Kaisha, capable of handling 5,000 tons per day each. They are so made that they can be moved laterally along the wall and raised or lowered at will to meet the requirements of the depth of water in the dock. These two machines can handle ten thousand tons of coal every twenty-four hours, which at the present time is about double the daily output of the mines. The lifting capacity of each machine is eight tons and coal can be taken, either from the storage piles or direct from the waggons coming from the mines. The storage yards are built adjoining the quay wall, the one at the back of the wall having a special equipment of five rows of trestles built upon pressed brick arches, underneath each of which there is a track for an electric railway for the transportation of coal from the storage piles above. The coal is dumped into receptacles on the top of these arches or tunnels in which are placed iron doors, which on being opened allows the coal to gravitate into waggons underneath, and a train of five or six cars is drawn by an electric locomotive to the loading machines, where it is emptied into the hoppers. The empty waggons are then by a special device, run down to the lower level sidings and so return to the tunnels for a fresh supply. These special tunnels, which have been devised for lump coal, have a capacity



LOCATION OF COAL PORT INDICATED

however, will now soon be a thing of the past, as with the completion of the new harbor works at Miike and the installing of patent loading machines, vessels will be able to enter the new harbor and take in bunker coal and leave again in about two hours, while steamers will be able to load coal cargoes at the rate of ten-thousand tons per day from two loading machines which each handle eight tons of coal at each hoist, which will take about forty seconds, thus saving a great deal of time and expense.

The new works, which have only taken a couple of years from the time they were begun until now, when they are practically completed, will be of great benefit to Shanghai shipping firms as well as Southern and Straits ports, which handle a large quantity of Miike coal. The water was first let into the new dock on the 16th March, 1908, when Marquis Inouye, in the presence of a number of the company's officials, turned the lever which

flat ground, while the bottom of Ariake bay is of a flat muddy nature. The water deepens considerably several miles from the shore, and it was at first decided to build the new works at this point, owing to the depth of water, but owing to the disadvantage of being so far from the mainland, it was finally decided to select a site further inshore and obtain the required depth of water by means of dredging and a dock gate, and the work of reclamation was at once undertaken.

RECLAMATION OF THE SEASHORE.

The reclamation of land from the sea became necessary for the purpose of obtaining space for building a new town; storage depots for coal and other goods; railway sidings, etc., connected with the development of the shipping industry. The first stage of the work which is to be completed in three stages, consisted of the reclamation of 358,000 tsubo, 296 acres, the second stage 307,000 tsubo, 254 acres, and the third stage, 46,000 tsubo,

of about fifty thousand tons. For the storage of the bulk of the dust coal ordinary trestles have been provided along which the trains will run direct from the mines. The dock has been built almost exclusively for the shipping of coal, but with the building of the projected new town, it is expected that many of the vessels trading to the new harbor will bring cargoes of raw cotton, bean cakes, oil, rice, etc., and full facilities for handling varied cargoes will be provided. For the accommodation of ships loaded with general cargo, a wharf three hundred feet long has been built, the supports of which are iron screw piles strongly secured to each other by iron braces. This wharf is at the southern side of the dock while close by are several temporary godowns, which will later on be replaced with brick and stone structures which will meet all requirements.

The dock gate controlling the water level in the dock forms one of most important features of the works. The width of the gate is sixty-six feet with a depth of eighteen feet of water above the sill at low tide. The locking is done by a single gate consisting of two massive steel doors, each of which weighs about eighty tons, and is protected by iron sheathing for about ten feet above the low water mark, at which depth the gate is either opened or closed by means of hydraulic rams. As a rule the double lock system is preferred, but in the present instance, as well as the question of cost, there is the difficulty as to the supply of reserve water for replenishing the loss of water caused by the passage of inward and outward bound vessels through the lock. Besides in adopting the single gate system, the gate can be kept open for five hours during each high tide, thereby affording ample time for the passage of vessels in or out. The dock gate communicates with the outer harbor by means of a channel 145 ken, 870 feet, in length which serves the double purpose of allowing vessels to reach the dock and the anchorage of vessels along each side of the channel, outside the dock gate. Having this end in view the channel has been made three hundred feet wide at the bottom, one hundred and twenty feet in the middle, being the channel proper, while ninety feet on each side is intended for anchorage purposes. The depth of water in the anchorage area has been dredged two feet deeper than the middle passage, so that there is a depth of twenty feet below low water. Provision has also been made for the building later on, if found necessary, of wharves along the walls of the channel above the anchorage grounds, to facilitate the rapid handling of general cargo and the loading of bunker coals. To assist the safe passage of vessels through the dock gate and to regulate their course, there is a powerful electric capstan, while at intervals along both sides of the lock wall are placed mooring posts and rings. Strong buoys are also placed at necessary points in and outside the dock for the safe mooring and guidance of vessels. Special attention has been paid to the force of the current at the dock gate, which was necessitated by the adoption of the single gate system. The harbor labors under the disadvantage of there being a marked difference in the tide range, especially spring tides, when there is a rise and fall of eighteen feet. The current then becomes so strong, that there would be some difficulty in the passage of vessels and the working of the dock gate. In order to obviate this trouble and alleviate the enormous strain on the gate, a series of auxiliary sluice gates has been constructed on both sides of the gate to regulate the flow of water in and out of the dock and thus check the speed of the current in the main channel.

THE OUTER HARBOR

The outer harbor is that part of the work which is bounded on the north and south by substantially built breakwaters funnel shaped and about 1,000 ken, 6,000 feet, in length, and on the east by a strong retaining wall 600 ken, 3,600 feet, in length on the first portion of the reclaimed land, and on the west side by the channel, the total area being about 150,000 tubo, 124 acres. The bottom of this tract is at the present time six or seven feet above low water mark and before it is deepened sufficiently

to accommodate large vessels considerable time and money will have to be expended. At present there is a channel one hundred and fifty feet wide at the bottom and eighteen feet deep at low water across the central part of the outer harbor for the safe passage of vessels to and from the dock, as well as sufficient room for the anchoring of two steamers, which has recently been dredged out. The deepening of the remaining portion of the outer harbor will be undertaken at an early date and when completed, the portion to the north of the channel will be devoted exclusively to public use. When this work is completed, there will be erected wharves, godowns, etc., as well as a station house of the Kyushui Railway Co., who intend to run a branch line here from their main line.

The breakwaters are of the rubble mound type, the body consisting of stones weighing from one hundred and fifty to two hundred and fifty pounds, the slope of the walls being 1:1.5 on each side. The outer wall facing the sea is protected by massive stones weighing from 1 to 1.5 tons. The top is three feet above high water and the width is fifteen feet. It was at first thought that this wall would not be strong enough, but years of experience by the engineers in charge have proved to them that the action of the waves in Ariake bay is much less than in the outer ocean, therefore, the present breakwaters are believed to be quite strong enough and safe and are an economical piece of work.

THE MAIN CHANNEL

The channel is about 1,000 ken, 6,000 feet, in length extending from the outer harbor into the bay of Ariake, having a depth of eighteen feet at low water. It is fully protected from the intrusion of sand and silt and the action of the waves by two parallel training walls of a similar construction as the breakwaters, having a height of one foot above high water and a width of twelve feet. The distance between the two walls, measuring from centre to centre is four hundred and fifty feet. A water course one hundred and fifty feet wide at the bottom and eighteen feet deep at low tide has already been dredged and to cope with the increased shipping traffic of the future it is to be further widened to about two hundred and fifty feet so as to enable vessels to pass each other. Considering, however, that at present the passage of the channel only requires ten minutes per vessel, this part of the work can for the time being remain in abeyance.

For the convenience of shipping arriving at night, the entrance to the harbor is distinctly marked by a light house at the end of the north training wall, which has a white and red occulting light which can easily be distinguished from other lights in the vicinity. The centre of the light is forty-five feet above high water and is visible about seven miles. For the further guidance there are numerous beacons moored at each side of the channel and along the top of the walls are large white stones to serve as guiding marks.

SUBSTITUTES FOR WOOD DECKS

Messrs. D. McGregor & Co. of Shanghai have issued in the form of a circular an interesting article appearing in the *Shipping World* under the caption, "Substitutes for Wood Decks," which follows:

"The labor troubles on the North-East Coast, which have so considerably disorganized the industrial activity of that district and of the country at large, naturally turn the thoughts of owners and builders to methods of doing the work by which the skilled mechanic is not required. The shipwrights especially stand to lose very materially in this regard. The amount of work they have to do in the modern mercantile shipyard is small as compared with their brethren in the Royal Dockyard. In the latter the shipwright *builds the ship*; in the former he is confined to the working of the wood in the ship, and even this he has to share with the joiner. A portion of the ship in which the shipwright has been supreme, is the wood deck, and although these are often dispensed with in cargo steamers, pure

and simple, yet wood decks, or some equivalent, are insisted upon for vessels carrying passengers or emigrants. Both Lloyd's and the Board of Trade will accept a substitute, and that known as *Conolite*, manufactured by Messrs. Wm. Gray & Co., has, to my knowledge, proved most efficient and economical. The basis of this substitute is sawdust, various woods being used according to the color and appearance desired. For hard wear a dark sawdust is employed, obtained from the harder woods; for light wear, as in cabins and messing spaces, the lighter woods can be used. The sawdust is specially treated and mixed with a certain proportion of cement and a certain binding liquid, and laid on the steel deck in a paste very much like cement. The surface can be made perfectly smooth, and even if desired can be given a polish. I have seen a space about 30 feet square on a mess deck laid with this material, and it looked very fine. It adheres perfectly to the steel deck, and—what is of great importance—absolutely seals the space up round pillars, coamings, etc. It appears to be sufficiently elastic to give with the movements of the ship. In some cases a wood deck has given continual trouble after a time by leakage into cabin spaces below, and the question of complete renewal has had to be considered, with the probability of a heavy outlay. With *Conolite* a layer, of say an inch, can be laid over the wood deck, and the whole perfectly sealed up everywhere. The deck is thus virtually relaid at trifling cost with perfectly satisfactory results. As stated above, the Board of Trade will accept this substitute over spaces intended to carry emigrants."

HEADWATERS MINING COMPANY

Mr. T. Phillips, Superintendent of the Headwaters Mining Co., reports that, despite the damage done by the October storms, the development work on the property is progressing well. No less than four distinct reefs are now being opened up with a promising outlook as regards values. Reef No. 1 has been stripped of the "overburden" for some 200 feet and shows a splendid body of ore over 20 feet in width. Tunnel No. 2 has advanced 30 feet, the face showing 4 feet of loose quartz carrying free gold. No. 3 Tunnel has been extended 15 feet and has solid quartz in the face 3 feet in width. This also pans free gold. No. 4 is a new reef, running parallel with the "Big Lead," which was exposed by a landslide during the recent storm. This discovery is an ore-body composed of quartz and manganese between well defined walls and five feet in width. A general assay of the face gives the value to be \$20⁸⁶ gold, per ton.

HELVIE WINS SUIT

Judgment was rendered in favor of Mr. C. E. Helvie in the Court of First Instance of Manila last month for the sum of P750.00 against the Springfield Road Roller Company of which company he was previously manager in Manila. This and other litigation grew out of the superseding of Mr. Helvie by a representative of the Road Roller Company in 1907 and the seizure of private funds of Mr. Helvie at the time. Mr. Farmer, the representative also filed charges against Mr. Helvie and these were published in a daily newspaper. Mr. Helvie brought one suit for libel; a suit to recover the amount of private funds seized and another to recover salary, etc., due. Farmer's case against Helvie was dismissed as was the libel suit brought by Helvie against Farmer, the judge ruling that the charges as contained in the court record were privileged but scored Farmer on the ground of malicious intent. Helvie won the other two suits which fully exonerated him from any reflection with reference to his connection with the Springfield Road Roller Company.

Mr. Helvie has since established himself in Manila as representative of leading American manufacturers and is developing an extensive business in agricultural and other machinery

FAR EASTERN COMPANY REPORTS

TOYO KISEN KAISHA.—The following accounts and recommendation were submitted at the half yearly meeting covering the six months ended June 30th, 1908:

	Yen
Total profit	192,611
Brought from last term	8,547
 Total	 201,158
To reserve	10,000
Dividends (5 per cent. to old shares; 12 per cent. new shares)	183,300
Carried to next account	7,858

SAPPORO TIMBER COMPANY.—At the regular meeting of the shareholders of this company held last month a dividend of 12% per annum was declared for the half year term.

ORIENTAL FISHING COMPANY.—The regular meeting of this company was held at Shimonoseki last month and a dividend of 30% per annum was declared for the half year ended June 30th.

HONGKONG HOTEL COMPANY.—The directors of the Hongkong Hotel Company have declared a dividend of 6% for the half year ended June 30th. The profit on working account amounted to \$80,822.30 as compared with \$73,068.23 for the corresponding period of 1907, being an increase of \$7,754.07. The profit and loss account, including the sum of \$252.17 brought forward from December 31, 1907, shows a credit balance of \$79,639.63.

UNITED ASBESTOS ORIENTAL AGENCY.—At the twelfth annual meeting held in September a dividend of \$19.80 on Founder's Shares and 20% dividend on ordinary shares was declared for the year ended May 31st, 1908.

SOUTH PHILIPPINES STEAMSHIP COMPANY.—At the annual meeting of this company at Zamboanga a dividend of 10% was declared for the term.

THE HONGKONG COTTON SPINNING, WEAVING AND DYEING CO., LIMITED.—At the annual meeting a dividend of 5% was declared for the year ended July 31st and \$9,553.35 was carried forward to next account.

THE TAINAN SUGAR MANUFACTURING COMPANY.—The net profit for the half-year term amounted to yen 160,595 out of which yen 18,000 was placed in the reserve funds; yen 45,000 set aside for construction, a bonus directed paid of 12,000; a dividend of 10% per annum to shareholders and a special dividend of 5% per annum for the half year directed paid leaving a balance of 18,666 yen to carry forward to next account.

FORMOSAN SUGAR MANUFACTURING COMPANY.—At the eighth general meeting of this company the following accounts were presented and dividends authorized for the half year:

Total receipt during the current term	1,859,567
Total expenditure	1,387,269
 Net profit	 472,298
Brought over from the previous account	139,906
 Total	 612,204
To legal reserves	25,000
Reserves for sinking fund of machineries, buildings and loans	85,000
Bonus	37,000
Dividend to shareholders (10 per cent. per annum)	427,600
Pension and relief fund	15,000
Carried to next account	22,604

MENAM MOTOR BOAT COMPANY, LIMITED.—The report for the half year ended June 30th shows a net profit of Tcs. 3,627 after writing off Tcs. 10,000.

SIAM ELECTRICITY CO., LIMITED.—This company declared a dividend of 6% for the half year. The net profit for the term amounted to Tcs. 270,000.

SIONE RUBBER COMPANY, LIMITED.—No dividend was declared for the year but the report of the directors indicated that a profit equal to a 15% dividend had been earned.

THE ISHIKARI COLLIERY COMPANY.—A dividend of 10% was declared at the recent general meeting of the shareholders.

THE DOUGLAS STEAMSHIP CO., LIMITED.—At the annual meeting of this company a dividend for the year of 5% was declared.

KARANGAN TIN MINING COMPANY, LIMITED.—The report submitted and approved at the regular half-yearly meeting of the shareholders of this company showed a net profit for the term of \$1,528 which added to the amount forward from last account and after deducting \$787 written off for depreciation, left a balance of \$10,222 to carry forward.

THE SERANDAH HYDRAULIC CO., LIMITED.—The report submitted by the directors follows:

"The profit for the half-year was \$71,699.24, and adding \$5,708.43, the amount brought forward from 1907, makes a total of \$77,407.67. On April 10th an interim dividend of 7½ per cent. per share was paid, absorbing \$63,750, leaving the sum of \$13,657.67 to be carried to next account."

EASTERN SHIPPING COMPANY, LIMITED.—At the general meeting of the shareholders of this company the report for the six months was submitted and it was decided that an interim dividend would not be declared until the end of the year. A satisfactory balance was reported at the credit of working account which will be used to carrying out some important works under way.

THE MEIJI SUGAR MANUFACTURING COMPANY.—The amount of 63,033 yen to the credit of profit and loss account for the half year term was directed carried forward to next account at the regular meeting recently held.

THE EASTERN SMELTING COMPANY, LIMITED.—This company has declared a dividend of 5% for the first six months' working. This showing is most satisfactory to the shareholders.

BERTRAM RUBBER COMPANY, LIMITED.—The report for the year ended March 31st shows a credit to profit and loss of £6,045 out of which a dividend of 3% was directed paid.

THE DAIRY FARM COMPANY, LIMITED.—The following report of the directors was presented at the annual meeting held in Hongkong October 27th:

"The profit for the year, after writing off \$1,447.37 for depreciation in investments and bad and doubtful debts, and providing for directors' and auditor's fees, amounts to \$75,548.39, from which it is proposed to pay a dividend of one dollar and thirty cents per share, absorbing \$32,500; to transfer to reserve fund \$40,000; to fire and typhoon insurance fund \$3,000; and to carry forward \$48.39."

THE NORTH CHINA INSURANCE COMPANY, LIMITED.—The following is the directors' report submitted at the annual meeting of the shareholders held at Shanghai, October 20th, and covering the year ended June 30th, 1908:

"1907.—The Balance at Credit of this Account is Tls. 204,097.00 and after deducting an interim dividend of 7½ per cent. aggregating Tls. 30,252.10, paid on 1st May last, there remains a sum of Tls. 173,844.90, which the Directors recommend should be appropriated in the following manner:

A Final Dividend of 7½ per cent. on the Paid-up Capital.

A Bonus of 15 per cent. upon Contributory Premiums.

Tls. 50,000.00 transferred to Silver Reserve, bringing that Fund up to Tls. 150,000.00.

And the Balance to be transferred to Underwriting Reserve Account, closing the Account for 1907.

1908.—The Balance at credit of Working Account to 30th June amounts to Taels 160,512.05."

THE HIGHLANDS AND LOWLANDS PARA RUBBER COMPANY.—This company has declared an interim dividend of 5% for 1908.

ANGLO-MALAY RUBBER COMPANY, LIMITED.—An interim dividend of 10% for 1908 was declared by this company last month.

THE SUMATRA PARA RUBBER PLANTATIONS, LIMITED.—This company declared a dividend of 10% last month.

HUMPHREY'S ESTATE AND FINANCE COMPANY, LIMITED.—At an extraordinary general meeting of this company held last month a resolution was adopted transferring the sum of \$50,000 from the fund for the equalization of Dividend to the credit of Typhoon and Floods Insurance Fund.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.—London advices announce that the directors have declared an interim dividend of 13% free of income tax for the past half year.

KINTA TIN MINES, LIMITED.—Further dividend of 6d a share was made payable in London, September 16th.

THE CHINA PRINTING AND PUBLISHING COMPANY, LIMITED.—This company paid an ad interim dividend of 5% for the half year ended June 30th.

THE TANJONG PAGAR BOARD.—The following is a short review of the report of the Board for the half year by the *Singapore Free Press*:

"The administration report of the Tanjong Pagar Dock Board for the half-year ending June 30 reached us yesterday.

The credit balance of revenue account for the half-year under review amounts to \$804,772.01, which, with the sum brought forward from the previous half-year, namely, \$65,664.20, gives a balance at credit of \$870,436.21.

In the first half of 1907, the credit balance on this account (work on the Board's own account done in the docks and workshops is not included) was, after adjustment, \$803,944.40; in the second half-year in 1907 the sum was \$857,158.65.

Of the total disposable balance of \$870,436.21, a sum of \$631,035.67 has been paid over to Government in respect of interest due and accrued on the initial capital cost of the undertaking, and on advances from Loan Funds.

The balance remaining of \$239,400.54 has been appropriated as follows:

(a) Transferred to Reserve Fund, under Section 31 (2)	\$168,308.45
(b) Transferred to Fire Insurance Reserve Fund	10,000.00
(c) Carried forward to next half- year	61,092.09

The total revenue, excluding work done on the Board's own account, for the half-year was \$2,502,572—wharf, \$1,516,291; docks, \$986,281. In the same period of 1907, the amount was \$2,547,622.

It is the intention of Government to fix by Ordinance the initial capital cost of the undertaking in a sum of \$29,003,149.45, and a Bill will shortly be introduced into the Legislative Council for that purpose.

The number of vessels using the wharves was 1,222 the tonnage being 2,447,845. In 1907, the first half-year, the vessels numbered 1,286, and the tonnage was 2,331,289.

During the half-year, the total tonnage of cargo dealt with was 1,232,731—673,866 in-

ward, and 558,865 outward. A hundred and thirty vessels (exclusive of the Board's own craft) were docked for repairs and painting, giving a total tonnage based on the tonnage in dock daily of 761,960 tons.

During the six months 120 outside vessels were docked for repairs and renovations, and the four dry docks were occupied for a total of 474 days. Railways and rolling stock were increased.

The work of reconstruction of Dock No. 1, Keppel Harbour, was completed satisfactorily early in the year, and provides excellent accommodation. Provision has been made at the head of the Dock for future extension if found necessary, the available length for docking purposes now being 375 feet on the blocks.

The progress of construction of the new Wet Dock and reconstruction of Main Wharf has been satisfactory.

Estimates were received in February for the New Graving Dock, Keppel Harbour, and they materially exceeded the sum included originally in the estimate. The matter has been left in the hands of the Chairman of the Board for the reconsideration of the proposal in London, with a view to reducing the expenditure so far as practicable.

The erection of the New Wharf at Prye River Dock, Penang, has been pushed forward diligently, though satisfactory progress has been seriously impeded by the sunken obstructions met with in driving the screw piles. Some 37,000 cubic yards of sand filling have been deposited in the reclamation work during the current half-year. Further negotiations are in progress for the system of sidings connecting with the main line of the Federated Malay States Railways.

The results of the half-year's working of this undertaking show an improvement on the previous half-year's results, and which it is hoped will be maintained."

TIN DREDGING IN TONGKAH HARBOR

The following is the report submitted by Mr. E. Byron Moore, M.E., to his principals in Melbourne on the Tongkah Harbor Tin Dredging Co., recently:

1. CONSTRUCTION OF DREDGE.—The actual construction of the dredge is good but there are many defects in the design. The top tumbler is several feet too low. As the greater part of the material to be dredged is clay, it does not leave the buckets as quickly as if it were a loose gravel; consequently the bucket is almost vertical before all the material is discharged and a large quantity of the material dredged does not drop into the chute, but in front of it, and so is not treated. I consider fully ten per cent. of material dredged is not treated. The top tumbler being so low makes it impossible to move the drop chute forward as the buckets would strike on it after going round the top tumbler.

The drop chute has not sufficient grade and blocks up.

Although some of the machinery is below decks there is absolutely no room to move about. The pontoons should be several feet wider.

The arrangement of the donkey pump is far too complicated for ordinary unskilled white labor, and with Chinese labor it is much worse. This pump feeds boiler, fills feed tanks and pumps out bilge water. As the bilge water contains a large quantity of oil, and this collects in the pump and pipe, when the pump is used for boiler feed a large quantity of oil goes into boiler.

There is no effective means of separating oil from condensed steam, and a large percentage of this oil goes into boiler.

The friction arrangements are very bad. To replace the friction blocks effectively means for this dredge a stoppage of about thirty-six hours, while with a properly designed friction it is not more than a two hours job.

The pivot shaft is badly out of line, as is also the first motion shaft.

The barrels on which are too small for the size of the rope used.

The steam pipes are not sufficiently braced. The vibration on them is excessive thereby tending to break joints.

I recommend that ejectors be put in to pump out bilge water and fill feed tanks, and that the feed tanks be put above level of boiler, so that the boiler when empty can be filled by gravity, and the donkey pump be used exclusively for filling boiler.

2. PRESENT CONDITION OF DREDGE.—The present condition of the dredge is very fair.

The buckets and links are in splendid condition, the lips and treads being worn very little.

The shaft driving the screen needs lining up. The screen itself shows very little wear.

The engines are in very good condition, as is also the gearing and the winch.

The pontoons are well constructed and in good condition as far as it is possible to determine without beaching the dredge.

The framing is very much too light. Some of it has already had to be riveted, and now needs rivetting again.

3. METHOD OF WORKING.—The present system of working, taking perpendicular cuts from top to bottom, seems to be best suited to the nature of the ground. Anchors are difficult to replace and can only be put in at low tide. There is less chance of pulling them out with the present method of dredging. The karang or tin bearing wash is also picked up fairly free from clay, which is a great advantage.

Although the buckets come up full nearly every time there is no strain on any of the lines, and the wear and tear on a dredge working under these conditions is so reduced to a minimum.

At present the dredge is working in comparatively poor ground, about fifteen hundred-weight per day, but owing to the fact that a dock and channel have to be dredged to fulfil the conditions of the concession, Captain Miles thought it advisable to make a start on the dock work. The two dredges arriving in February are to be put to work on richer ground.

4. THE PROPERTY GENERALLY.—This concession is the most ideal bucket dredging proposition in the world.

The average depth, taken from Captain Miles' bores, is thirty feet, of which twenty-seven feet is overburden consisting of mud, sand and clay, and three feet is karang or tin bearing wash. The bottom, or kong, is soft yellow clay and a most ideal bottom for dredging, as every grain of tin is easily dredged up.

The overburden, though consisting chiefly of clay, does not stick in the buckets but discharges easily.

The tide is a tremendous advantage. Not only does it enable the dredge to stack tailings without an elevator, but it enables the corners of the cuts to be taken out easily, and the dredge can be moved from place to place at high tide, if it strikes a poor patch, without having to dredge its way out.

The greatest depth of water at low tide on any part of the concession is twelve feet.

It is of course impossible to give anything like a correct estimate of the value of this concession owing to the fact that only sixty bores have been put down, but taking the result of Captain Miles' bores, the concession contains 180,000,000 cubic yards containing two pounds of black tin to the cubic yard and the dredge has so far increased the boring estimate by fully thirty per cent.

The present value of black tin, after deducting royalty, is eight pence per cubic yard, and as the working expenses will be about two pence per cubic yard with three dredges and less than two pence with more than three dredges at work, this leaves an enormous profit to the shareholders.

The Chinese have done considerable work on the shores of the bay, working a strip 1½ miles wide out into the sea half a mile, by building embankments with stone which they brought by boat from four miles away; stripping all the overburden and carrying it away in baskets; washing the karang and separating the tin, and keeping pumps going day and night to drain their workings.

The average rate of wages for this class of work is about 1-6d. per day per man, and one of these coolies will carry about two cubic yards per day. To this add the cost of build-

ing embankments, pumping, etc., and the cost would work out at over a shilling per yard treated.

From all indications it paid the mine owner well, and he was trying to get a further concession out into the bay when Captain Miles got his concession.

This concession is by far the biggest bucket dredging proposition in the world, and, I am sure, will prove the most profitable.

Considering the class of labor at his command and the unsuitable plant, Captain Miles is to be congratulated on the way the dredge is now running.

5. NEW DREDGES.—I have examined the plans and specifications of the new dredges, and consider that these dredges will be entirely suitable for the class of work. They have been designed to overcome the difficulties that have been met with, and are more strongly constructed than the No. 1 dredge.

MINE REPORTS

F. M. S. Tin Mine returns for September:

	Piculs.
Belat.....	606
Bruseh.....	400
Gopeng.....	620
Kanaboi.....	306
Kinta.....	500
Kledang.....	400
Kuantan.....	26
Lahat.....	1,027
New Gopeng.....	224
Pahang Consolidated.....	2,045
Pusing Lama.....	540
Rambutan.....	227
Royal Johore.....	126
Serendah.....	369
Sipiau.....	92
Tekka.....	300
Tronoh.....	2,470

FAR EASTERN GOLD OUTPUTS

Raub Australian Gold Mining Company to the end of October for the year 1908, 6,455 ounces.

The Oriental Consolidated Mining Co. for September the gross receipts were \$124,655 gold.

PHILIPPINE ISLANDS

Benguet Consolidated Mining Company for October reports 186 oz. plate Bullion and 150 oz. cyanide making a total for the month of 336 oz. working 21 days. Landslide in typhoon displaced flume during the month and repairs were delayed while flood subsided.

Paracale Gold Dredging Company reports 630 oz. as the result of October's working.

NEW MANILA HARDWARE AND MACHINERY HOUSE

"La Sanidad" is the name of the new hardware and machinery firm that now occupies the former location of Messrs. E. J. Smith & Co., at Nos. 11-13. Besides a complete line of heavy and shelf hardware, the firm makes a specialty of launch construction in which line it has met with unusual success. The 25 foot launch Ferro-Arrow exceeded the remarkable speed of 15 miles on her trial trip. La Sanidad is the general agent for The Ferro Gasoline Engine Company of Cleveland, Ohio, whose engines have given general satisfaction wherever they have been used in Philippine waters. All the launches built by La Sanidad are equipped with the Ferro engines. The company's slipway is located conveniently on the Pasig River in the barrio of Santelanes, Manila, and the capacity of the plant will be increased as the business of the company expands.

Besides these leading features, a well-equipped plumbing department is run in connection and up-to-date plumber supplies are carried in stock

FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

ELECTRIC RAILWAYS, LIGHT, POWER, TELEGRAPHS, TELEPHONES, AIRSHIPS, ETC.

BUND RAILWAY AT YOKOHAMA.—The proposed electric railway along the Bund in Yokohama has been abandoned for the present.

TIENTSIN ELECTRIC TRAMWAY EXTENSION.—The extension of this line to the Quai de France near the custom house was officially opened to traffic, September 1st.

YOKOHAMA ELECTRIC EXTENSION.—The survey for an extension of the Yokohama Electric Railway to Kamakura has been completed and a franchise has been applied for.

FREE TRAMWAY TICKETS IN YOKOHAMA.—During the visit of the American fleet at Yokohama, the Electric Railway Company supplied the officers and men with free transportation.

JOSHIN ELECTRIC TRAMWAY.—A line has been projected from Takasaki by way of Kanaya and Shibukawa to Uyeda station on the government Shinetsu line, a total length of 70 miles.

BANGKOK ELECTRIC LIGHTING.—Messrs. Riley, Har-
greaves, Limited, of Singapore, have completed the installation of 37 new lamps in Dusit Park, Bangkok. The current is supplied by the Siam Electricity Co.

WIRELESS IN FORMOSA.—The Japanese government has made arrangements to install a wireless station on Azincourt Island which is located off Keelung so as to establish communication with Japanese ships at sea.

EASTERN RUSSIAN WIRELESS.—The Russian government has authorized the installation of a wireless service between Petropavlovsk and Nicolaivsk as well as the stringing of telegraph wires between Okhotsk and Yukutsk.

NANIWA ELECTRIC RAILWAY.—Progress has been made on the construction of the Tennoji-Kohama section of this line. The original estimate of yen 229,000 has been expended and it became necessary to call on the shareholders for another assessment to carry on the work.

JAPANESE TELEGRAPH SYSTEM.—The announcement is made from Tokyo that the Japanese government has appropriated 140,000 yen to which will be added 214,000 yen from the municipalities for the purpose of establishing 230 additional telegraph offices during the current year.

CHINESE TELEGRAPHS.—The announcement is made at Peking that the Ministry of Posts and Communications has succeeded in securing control of the stock of the Chinese Telegraph Administration held by private parties and that the nationalization of the different Chinese systems will now proceed apace.

KOHSICHANG CABLE LAID.—The *Bangkok Times* announces that communication from Koh Kam Yai and the mainland was established September 21st and the first message dispatched to His Majesty at Bangkok. It was opened to the public last month. The cable used was manufactured in Singapore.

ELECTRIFICATION OF MELBOURNE SUBURBAN LINES.—Mr. C. H. Merz, the expert who recently looked over the situation at Melbourne reports favorably upon the substitution of electric for steam powers on these lines at a cost of approximately £2,250,000. The entire length of track involved is about 124 miles. The cabinet is now considering action.

WIRELESS TELEGRAPHY AT PEKING.—Lieut. Brauzzi of the Italian navy stationed at Peking has been experimenting successfully with a portable field apparatus on the Marconi system between the Italian legation there and the surrounding hills. The wireless equipment at the legation provides communication with war vessels 300 kilometers distant from Peking.

SHANGHAI'S NEW POWER STATION.—A lot in the Eastern District of Shanghai has been secured for a site for a new power station at a cost of Tls. 75,000. The new station has been made necessary by the increase in the demand for power and lighting and the purchase by the Municipal Council was made upon the recommendation of Mr. T. H. U. Aldridge, the electrical engineer.

TOKYO ELECTRIC RAILWAY EXTENSIONS.—The construction of the Hiroo-Ikegami Electric road connecting these two points and covering a distance of about 4.5 miles was commenced this month and it is expected will be opened by February of next year. The cost is estimated at one and one-half million yen and when completed will be connected with the Keihin Electric from the Ikegami end.

TOKYO ELECTRIC LIGHT COMPANY.—The hydro-electric power house recently constructed on the Katsura River is unable to supply sufficient electricity to meet the increased demand in the city and it is the company's purpose to arrange a loan for the harnessing the lower waters of the Katsuragawa. The cost of the Katsura plant exceeded 5,000,000 yen and the necessary works on the lower reaches is estimated to cost in the vicinity of ten million.

PEKING CHINESE CHARTERED ELECTRIC COMPANY LIMITED.—This company has decided to increase its generating plant from 400 h. p. to 1,600 h. p. and expects to have the additional equipment installed by the last of December. The company has cut the price per unit from 36 to 24 cents. The Peking Electric Company, the opposition company, proposes to meet every cut. Mr. van Assum, electrical engineer for Messrs. Buchheister & Co., is in charge of the installation of the Chinese Company.

SYDNEY ELECTRIC LIGHTING.—The *Australian Hardware and Machinery* announces that excavations have been under way for some time for the construction of foundations for a new storage battery house for the city and the cost will run into five figures. This installation was made necessary by the greatly increased output of the city generating plant in order to equalize the loading at the sub-stations. The city council has also authorized the floating of a loan for the purpose of increasing the capacity of the generating and converting plant.

KALGAN KIACHTA TELEGRAPH LINE.—The old telegraph poles on this line are to be replaced at an early date and a reduction of rates is anticipated. The correspondent of the *China Critic* states that there are five telegraph offices in Mongolia as follows:

(1) Pongkiong (called Bunhan in Mongolian) about 200 miles north of Kalgan, (2) Udde-halfway between Kalgan and Urga, (3) Tuerin (Choyrin in Mongolian) about 200 miles south of Urga, (4) Urga, and (5) Marmachin (Maimai-ch'eng) just opposite the Russian town of Kiachta.

RAILWAYS AND RAILWAY SUPPLIES

PEKING-KALGAN RAILWAY.—The Viceroy of Chihli reports that this line will be completed by the end of the year.

YOKOHAMA-HACHIOJI RAILWAY.—The opening of this line took place in October covering a distance of 27 miles. There are nine stations along the route.

MUKDEN JUNCTION OPEN.—The junction of the Imperial Railways of North China and the Southern Manchurian Railway was announced complete October 1st.

SIAM STATE RAILWAYS.—The announcement is made that the standard gauge line has been extended from Pitsanuloke to Bandara and will be opened for traffic December 1st.

CHINESE REDEMPTION LOAN.—The Chinese Railway loan for \$5,000,000 has been floated in London and Paris at 98. The bonds bear 5% interest until 1923 and after that date 4.5%.

AMERICAN PASSENGER COACHES IN JAPAN.—The five cars ordered from America for the Kyushu Railway have been tried out on the Tokyo-Yokohama line and have given satisfaction.

SOUTH MANCHURIAN REVENUE.—The receipts for the month of August amounted to 602,548 yen of which one-third was received from passenger traffic and two-thirds from freight carried.

LOKOW STEEL BRIDGE.—The bridge over the Yellow River for the Tientsin-Pukow Railway will cost, when completed, in the vicinity of Tls. 2,000,000. The site has been approved at Lokow.

KASHING RAILWAY COMPANY.—The earthwork is almost finished connecting Hangchow and Kashin but no ballasting has been done or steel laid. Little work has been done on the Kiangsu end.

KOREAN RAILWAYS.—The announced policy of Japan is to connect the Korean system of railways with the Manchurian system the operations to be carried out within three years and at a cost of about 30,000,000.

SEREMBAN-PORT DICKSON LINE.—The relaying the line between these two points and the realignment is now under way. The 30 pound rails will be replaced with 80 pound steel and the distance shortened by about two miles.

JOHORE RAILWAY CONSTRUCTION.—The rails were connected about 60 miles from Johore last month concluding connections by rail between Johore and the F. M. S. The line will not be opened for traffic until next year.

KIRIN-CHANGCHUN RAILWAY.—It is estimated that the northern section will cost in the vicinity of three million and a half taels. Advices from Pekng have it that active construction work will commence at an early date.

YIHSIEN-ZECHOW BRANCH.—The Chino-German Coal Mining Co. has petitioned for a branch line to connect the mines in Shantung with the Tientsin-Pukow for the purpose of disposing of the product along the line of railway.

NEW ZEALAND RAILWAYS.—The latest acquisition by the New Zealand government is that of the Manawatu Railway covering a distance of 84 miles for which was paid the sum of £925,000. The line will be taken over December 7th.

NEW CHINESE RAILWAY ENTERPRISE.—The formation of a company at Nanking promoted by H. E. Sheng Kung-Pao, has been concluded for the purpose of securing the contract for constructing the Anhui section of the Tientsin-Pukow Railway.

KASUR-LODHRAN EXTENSION.—The Indian Government has sanctioned the construction of a 5 feet 6 inch gauge railway from Kasur on the North Western Railway to Lodhran a distance of 202 miles and which will form a part of the Southern Punjab Railway.

SZECHWAN-HANKOW RAILWAY.—The gentry of Hupeh have urged the authorities to raise a loan for the completion of this line before further action be taken for securing funds for the Canton-Hankow. They want to raise about 15,000,000 taels for the purpose.

INDO-CHINESE RAILWAYS.—It has been announced that the Laogai-Mengtze section of the Yunnan line will be opened for traffic by the end of 1909 and the entire line to Yunnanfu by the end of 1910. Of the Saigon-Langhian line about 45 miles is now in operation.

CANTON-HANKOW CONSTRUCTION.—Latest advices from the scene of operations indicate that the line will be open to Wongshek by the end of the year. The sufferers from the severe floods in that region are offering their services to the railway so that labor is plentiful.

PEKING-HANKOW REDEMPTION LOAN.—A report from Peking has it that arrangements have been concluded to raise a domestic loan in the provinces of Kiangsu, Hupei, etc., to the amount of Tls. 50,000,000 for the purpose of redeeming the Peking-Hankow line.

CONTROL OF CHINESE RAILWAYS.—Imperial sanction has been asked to the authorization of Liang Shih-ji, Chief Secretary of the Department of Railways, to supervise the control of the railway lines operated throughout China by the central and provincial governments.

CHEFOO-WEIHSIEN RAILWAY.—The promoters of this line are sanguine of success in securing the consent of the Peking authorities. The capital subscribed is Tls. 5,000,000 all by Chinese capitalists. First section planned for construction connects Chefoo and Huangshan, a distance of 75 li.

PUKOW-HSINYANG RAILWAY.—Negotiations with a view to concluding a loan agreement for the construction of this line similar to those arranged in regard to the Shanghai-Hanchow-Ningpo line, are well under way. It will be remembered that the concession for the line was granted the British and Chinese Corporation in 1898.

SHANTUNG RAILWAY COMPANY.—The announcement is made that the receipts of this company for the half year ended June 30th, 1908 show a profit of \$1,191,000, a falling off of about \$40,000 compared with the corresponding term 1907. The floods in August resulted in serious damage to the line, carrying out several dams between Yang Chia-kwang and Cho-Tien.

CANTON-HANKOW RAILWAY.—Sir Chen Tung Liang Cheng, the director-in-chief of this construction, announces that 107 li of this line is in operation and 40 li of earthwork completed. Out of the six million taels made available there is a balance of over Tls. 2,500,000. There is also stock of supplies on hand valued at 900,000 taels, the balance of Tls. 3,500,000 expended is accounted for in the purchase of right-of-way and construction, etc., says the *South China Morning Post*.

NATIONALIZATION OF JAPANESE RAILWAYS.—The Japanese government has decided to issue 250,000,000 yen worth of bonds for the redemption of railways during the current fiscal year as follows:

Hokkaido Tanco Tetsudo.....	30,997,100
Kobu Tetsudo.....	14,599,550
Nippon Tetsudo.....	142,523,532
Sanyo Tetsudo.....	76,639,200
Nishinari Tetsudo.....	1,847,900

NEW SOUTH WALES LOCOMOTIVE WORKS.—The State Treasurer of New South Wales has announced that the locomotives built by the Clyde Engineering Company had proved a success and that imported locomotives had not demonstrated any superiority over the local manufacture, says the *Australian Hardware*. In addition to the locomotives supplied by the home manufacturers an order has been placed for 75 additional locomotives by the government with English firms.

CHINESE MATERIALS FOR THE TIENTSIN PUKOW.—Arrangements are being made with the Chihsin Cement Factory at Tangshan for the supply of the product for construction work on the Northern Section of the Tientsin Pukow Railway and to secure the steel from the Peiyang and Shantung Arsenals for the same section, while for the Southern Section the arsenals at Nanking and Hanyang together with the steel works of Hangyang will be given the contract to supply steel to the extent of their capacity. Messrs. Jardine Matheson & Co., Limited, secured the contract for the supply of Oregon pine recently advertised by the company.

INDIAN RAILWAY CONFERENCE.—The following are the delegates to the Indian Conference at Simla now in convention:

President, Mr. W. M. Dring; Secretary, Mr. D. Ross Johnson; Delegates, Messrs. V. Wood, W. B. Simson, E. A. Neville, J. Manson, A. Rowland, E. Johns, C. H. Windle, A. Muirhead, C. M. Pearce, F. K. Rickards, W. Pendlebury, R. Todd, A. R. Anderson, N. Priestley, Major A. D. G. Shelley, Colonel C. H. Cowie, the Thakur Sahib of Morvi; also representatives of the Bengal Dooars Railway, North-Western Railway, Oudh and Rohilkhand Railway, Rohilkhand and Kumaon Railway and the Shahdara-Saharanpur Railway. Other officers attending are Messrs. C. V. Blis, A. M. Clark, F. W. Harrison, G. F. Guy, R. E. Pigot, W. P. Johnson, H. B. Huddleston, F. Palmer, A. Muirhead, J. Shaw, W. B. Wright, F. D. Kiernander, T. J. McCloughin and W. C. Gage. Pending the opening of this annual meeting the Simla Committee is considering the question of the simplification of goods traffic. The members are Messrs. Muirhead, G. I. P. R.; Pearce, E. I. R.; Lightfoot, Bengal and North-Western; and Bean, North-Western railway.

PUBLIC WORKS, DOCKS, WHARVES, ETC.

KOREAN PUBLIC WORKS.—The report of the public works department for 1907 shows an expenditure of \$65,000.

NAVAL DOCK.—The big dock which was started at this station last year will take five years to complete.

YOKOICHI HARBOR WORKS.—The expenditure of yen 2,000,000 in the construction of a harbor at this point has been postponed indefinitely.

PORT DICKSON WATER SUPPLY.—The capacity of the reservoir connected with the water supply is 60,000 gallons and the daily consumption 16,000.

HAKO CONSERVANCY WORKS.—The progress of the work of deepening the channel has progressed favorably and over a mile has been covered by the dredger.

DREDGING MOJI STRAIT.—The budget for the next fiscal year will provide for the expenditure of yen 13,000,000 during the next five years in dredging the channel.

YOKOHAMA HARBOR IMPROVEMENTS.—The three piers on the Bund at Yokohama, each being 310 feet in length, 9 feet wide and with a depth of 15 feet of water at the end, are now complete.

HONGKONG PUBLIC WORKS.—The report of the Director of Public Works, Hongkong, shows an expenditure for the year 1907 of \$1,524,527, a saving on the estimates for the year of about \$640,000.

NIIGATA PUBLIC WORKS.—This municipality has decided to raise 200,000 yen by a municipal loan, the funds to be used in reconstructing the municipal buildings, schools, etc., recently destroyed by fire.

ASPHALT PAVING IN NEWCASTLE, N. S. W.—The proposal of the municipal council of Newcastle to borrow £40,000 for the purpose of paving the streets of the city with asphalt, has been approved by the public works department.

TUNTING LAKE CONSERVANCY.—The Governor of Hunan is investigating the feasibility of conserving these waters to navigation, and, if the report is favorable, funds will be provided and the work commence at an early date.

DREDGING MENAM RIVER.—The Bangkok press is agitating the dredging of the bar at the mouth of the Menam River and the broadening of the harbor with a view to giving free access and plenty of room to make it attractive to shipping.

KEDAH STEEL BRIDGE.—The Bangkok *Times* announces the opening of the new steel bridge at Kapala Batas, Kedah, by the Sultan. This construction is 200 feet in length and is entirely of steel. Messrs. Howarth Erskine Limited of Singapore were the contractors.

CANTON WATER WORKS.—The system which was opened for service August 14 has given satisfaction and has now been extended to all the different parts of the city, the piping having been installed generally. Work on the outside construction is being rapidly concluded.

ILOILO PUBLIC IMPROVEMENTS.—The city council of Iloilo is contemplating the construction of new municipal buildings, a city market, and an up-to-date water supply system. The expenditure is estimated at about P300,000 and will be raised by an issue of municipal bonds.

JAPANESE MILITARY AND NAVAL WORKS POSTPONED.—The postponement of the expenditure of over Yen 200,000,000 for public works for the next fiscal year has been announced. This amount includes Yen 90,000,000 in naval works and about Yen 60,000,000 in proposed military works.

PENINSULARIZING SAGHALIEN.—A project is under way to connect the island with Siberia by raising the submerged sand bank existing across the straits. The Russian projectors had also in view the raising of the temperature of the island by thus diverting the old current from the Sea of Okhotsk.

SHAKIWIEN DEVELOPMENT.—This section of Victoria has undergone quite a transformation under the supervision and enterprise of Messrs. Butterfield & Swire. A large portion of the land has been cleared entering that section and with the Quarry Bay Docks that section makes one of the most striking evidences of progress.

KRIAN IRRIGATION WORKS.—This important enterprise which represents an investment of \$1,600,000 has now been in operation for two seasons with the result that while the government has not realized much revenue, the people interested in the land and agriculture have benefited at least by one half the original cost of the works, according to the report of the director of public works of the F. M. S.

SHIPBUILDING, GENERAL MARINE AND FISHERIES

N. Y. K.'S. NEW STEAMER.—The steamer Miyazaki Maru, 8,700 tons, was launched from the Kawasaki Shipyards on September 24th.

HANCHOW-SHANGHAI SERVICE.—A French firm has inaugurated a service between these two points with a view to competing with the combination Japanese and Chinese company.

SITANKI SPONGE FISHERIES.—A report from Mindanao is to the effect that a shipment of 150,000 sponges weighing about 3,000 pounds were made direct to New York from the Sitanki fisheries.

JAPANESE SUBSIDIES.—The Communications Department has decided to renew the subsidy of yen 2,670,000 to the Nippon Yusen Kaisha European Service and the Toyo Kisen Kaisha's San Francisco Service which expires the first of December this year. The subsidies will continue until 1915.

KOREAN STEAMSHIP SUBSIDY.—The Korean government has subsidized the North Korean Coast Steamship Company for a period of three years to the amount of yen 250,000 and in return the company agrees to run steamers between Fusun and Gensan, Fusun and Uengi Bay, and Kangking and Shehu, says the *Chamber of Commerce Journal*.

STRAITS STEAMSHIP COMPANY'S NEW ADDITION.—The steamer Ipoh, built by the Caledon Shipbuilding Company of Dundee, has been added to this fleet and will be placed on the Singapore-Penang run. Her dimensions are: Length between perpendiculars, 244.6 feet; breadth moulded, 35 feet; and depth 15.9 feet. At her speed trials, she exceeded 15 knots an hour.

INDO-CHINA FISHERIES.—The government has recently issued strict regulations providing for the protection of the fisheries which are of the greatest value to the inhabitants. The regulations provide that no dynamite shall be used and injurious substances must not be thrown in the rivers and streams. Breeding ponds for the development of fish culture have been established.

MANILA PILOTAGE FEES.—A protest of the coastwise shipping firms of the Philippines have been made with the Collector of Customs against the pilot fees charged in this service at the port of Manila. It is held that the coastwise masters are sufficiently versed in the navigation of the mouth of the Pasig as to be able to berth their vessels without the additional expense of the pilotage that they are now forced to pay.

TRANSPORTATION FOR SUBMARINES.—The Vickers Company at Barrow recently constructed a special vessel to be used in carrying the two new submarines ordered by the Japanese Government from the yards to Nippon. The vessel was christened the Transporter and was arranged to be submerged in the drydock at Birkenhead and in that condition the submarines were to have been floated over her. Then, when in position, the water was pumped out of the dock and the submarines dropped into the special cradles prepared for their reception in the hold.

MITSU BISHI DOCKYARD.—The trial trips of the Sakura Maru and the Chiyo Maru took place last month and were considered most satisfactory. The Chiyo Maru is the sister ship of the Tenyo Maru built for the Toyo Kisen Kaisha and the Sakura Maru is a sister ship of the Kamo Maru and was built for the Imperial Volunteer Fleet Association. The steamers now under construction at the yard are: Two for the Nippon Yusen Kaisha, sisters to the Kamo Maru; the third Toyo Kisen Kaisha vessel; two tank steamers, of 9,320 tons gross, for the Toyo Kisen Kaisha; and a sister ship to the Sakura Maru for the Volunteer Fleet.

MINES, MINERALS AND THE METAL TRADE

SIAMESE TIN OUTPUT.—The output of tin from Siam for the year 1907 amounted to 2,652 tons.

LEAD IN KWANGSI.—A foreign minister at Peking has asked for a concession to operate a lead mine in the province of Kwangsi.

OIL IN CHINESE-TURKESTAN.—A company is being promoted for the purpose of making extensive exploration of this territory for oil.

FORMOSAN GOLD AND SILVER.—For the six months ended June 30th, the mines produced in gold 204,419.67 momme and in silver 107,601 momme.

BURMA RUBY MINES.—The Chief Inspector of Mines in India reports that the output of gems from Burma has decreased from 324,410 carats in 1906 to 296,125 in 1907.

SHANTUNG MINING SOCIETY.—This company has opened an office at Shanghai for the purpose of extending the sale of the product of its mines. The company claims that its coal is equal to Cardiff lump.

SUCTION DREDGE PLANT FOR PERAK.—The Tekka Tin Mining Company has purchased a double 12-inch suction dredge from a South Melbourne house. The engine is marine type vertical coupled compound 350 h. p.

SURIGAO GOLD DEPOSITS.—Reports from Mindanao indicate that there will be some activity in this section this year. The pioneers in the district have ordered a hydraulic plant which will be installed at an early date.

SAGHALIEN COAL.—A Japanese expert reports that there are rich deposits of coal on the east coast but that it is impossible to secure an open harbor convenient to the coal as any available and suitable are frozen up for five months in the year.

NEW SOUTH WALES COPPER MINING.—The Lloyd Copper Co. has decided to expend £55,000 for the construction of a tramway 8 miles in length; the removal of the smelter and in making alterations and improvements in the shaft and mill.

PHOSPHATE ISLAND IN THE PACIFIC.—A German company has been exporting a large quantity of phosphate from the island of Nauru in the Gilbert group and it is reported that the entire island, about 18 miles in circumference, is of phosphate formation.

FOKien MINERAL DEVELOPMENT.—A company comprised of Chinese capitalists has been organized with a capital of Tls. 5,000,000 for the purpose of developing the mineral wealth of Fokien and an effort is being made to secure the cancellation of the French concessions.

COAL IN SHENSI.—Deposits of coal have been located by an American mining engineer in the province of Shensi and it is probable that a concession will be granted to a joint Chinese and American Syndicate to develop the property. American capital has been offered to undertake the preliminary expenses.

WAKAMATSU STEEL FOUNDRY.—This establishment is now equipped to turn out about 600 miles of steel rails annually and has also turned out a number of locomotives that have proved satisfactory. Besides railroad material, supplies for armaments to the aggregate of 80,000 tons were also manufactured for the government last year.

HONAN COAL MINES.—The purchase by a German subject of mineral property near Lo Chien-shan without first securing permission from the local authorities, has been declared null and void and the purchase money will probably be returned. The deposits are said to be of excellent quality and a Chinese company will probably be formed to develop them.

LAICHOWFU GOLD FIELD.—The deposits of gold at the boundary of the city of Laichowfu have been opened under the direction of the Chinese government and is reported to be paying very satisfactory dividends. At present, only very antiquated methods of mining are in vogue but it is announced that machinery of a modern character will be installed at an early date.

NEW ZEALAND MINERAL OUTPUT.—Gold, silver, coal and other minerals, including kauri gum, were produced in New Zealand, in 1907, to the total value of £100,523,000. The dividends paid by the gold mining companies amounted to £732,000 being 36 per cent. of the total value of the gold production. The number of persons employed in the mining industry was 13,100.

HONAN COAL PRODUCTION.—Several thousand tons of coal have been accumulated at the Shangkou Mines after a busy season during which three coal trains were running steadily daily carrying the product as far as Peking and Tientsin and points along the line of railway. The Peking Syndicate Mines are producing about an average of 35 tons daily and the Kuan-tai mines have begun operations, says *P. & T. Times*.

JAPANESE MINERAL OUTPUT.—The following is the report of the mineral output of Japan for the six months ended June 30th:

Gold.....	297,300 momme
Silver.....	14,129,593 momme
Copper.....	28,474,318 kin
Iron.....	4,954,794 'wamme
Coal.....	5,945,718 tons
Kerosene.....	703,508 koku
Sulphur.....	19,992,554 kin

OIL GUSHERS IN JAPAN.—Last month two wells owned by the Takarada Company of Japan started to discharge unusual quantities of oil which represented an increase of about yen 85,000 in revenue monthly. As a result the shares of the company soared and much excitement resulted in the oil district of Echigo. The import of oil to Japan annually averages 17,000,000 yen in value and the production about 8,000,000. Experts state that by tapping the strata 300 feet deep an unlimited supply will be available and as a result the prospect for reducing the importation in the next few years materially is bright.

FINANCIAL AND MISCELLANEOUS

SIAMESE TEAK CONCESSION.—The East Asiatic Francais has secured a concession of valuable teak forest in Siam.

TSINGTAU SOAP MANUFACTURE.—German capital is interested in the operation of an extensive soap manufacturing plant at this point.

YOKOHAMA SPECIE BANK.—This institution has decided to establish branches at Rangoon, Singapore, Montreal, Vancouver and Seattle.

HONOLULU JAPANESE BANK.—The Japanese capitalists of Honolulu have perfected plans for the establishment of a Japanese Bank at that port.

CHINKIANG PAPER MILL.—The plans of the new paper mill at this point are completed and will be carried out at once. The capital is Chinese.

FUJI PAPER MILL LOAN.—This company has obtained a loan of yen 1,500,000 from a British Syndicate through Messrs. Samuel Company of Yokohama.

BILLS OF EXCHANGE AT THE HAGUE.—International regulation of exchange will be one of the important subjects discussed at the 1909 conference.

SHANGHAI CANNING FACTORY.—Messrs. Tai Foong & Co., Limited, have established the first canning factory at Shanghai which will can game, fish, poultry, vegetables, etc.

QUEENSLAND BEEF AT TSINGTAU.—The Queensland Meat Export Company Limited has been awarded the contract to supply beef to the German Government at Tsingtau.

CHINESE NAVAL LOAN.—The Viceroy of Chihli has memorialized the throne with a view to arranging a British loan to cover the expenses of reorganizing the Chinese navy.

JAPANESE SUGAR TRUST.—The Dai Nippon, Kobe and Yokohama sugar manufacturing companies have entered into an agreement to limit the production of sugar and of pooling the sales.

DARIEN TRADE.—The report for the half-year ended June 30th, 1908, shows an increase of over yen 20,000,000 in the import and export trade of this port compared with the corresponding term 1907.

MONGOLIA SAVINGS BANKS.—A movement is on foot to establish savings banks throughout Mongolia under federal guarantee and with a view to using the money for the development of the country.

FORMOSAN SUGAR AND DEVELOPMENT COMPANY.—The prospectus of this company places the capitalization at £80,000 and has for its purpose the control of the Bain & Co.'s interests in Anping.

NIPPON YUSEN KAISHA REDUCES RATES.—To lessen the heavy burden of shippers resulting from the raising of rates on the trans-continental lines this company put into effect a rate 16% less than the regular schedule says the *Chamber of Commerce Journal*.

CHINESE COTTON INDUSTRY.—An investigation is being carried on with a view to ascertaining the prospects of the cotton growing industry in Chihli province as a preliminary to the erection of a large cotton yarn factory at Tientsin under government supervision.

DAI NIPPON LEAD PENCIL CO.—This company which has a capacity for turning out 100,000 yen in value of lead pencils proposes to increase its stock to yen 800,000 with a view to supplying the demand which involves the importation of pencils to the value of 1,000,000 yen.

AUSTRO-HUNGARIAN SYNDICATE.—This organization which was formed to promote industrial enterprises in China has taken the initiative in the establishment of the Chinese Industrial Bank. Of the capital, Chinese capitalists have pledged themselves to contribute francs 5,000,000.

JAPANESE SPECIE ABROAD.—According to the latest investigation the Government has abroad the sum of 250,000,000 yen of specie. Add to this there is 50,000,000 yen of specie possessed by the Bank of Japan and 23,000,000 odd yen of the South Manchurian Railway loan the total standing 380,000,000 odd yen. Compared with the beginning of this year the figure indicates a decrease of about 90,000,000 yen.

CONTROL OF SILK.—The Yokohama Chamber of Commerce held a general meeting on Sept. 3rd. The members considered the recent complaint lodged with the Central Government by silk traders on the control of silk goods by the Tax Bureau. They agreed to take sympathetic action towards the traders. Mr. S. Kurusu, Vice-President, then gave an address explaining the proceedings of the various Chambers of Commerce in consequence of the Government's proposed financial reform. It was also decided to entertain a number of the prominent American business-men who are shortly to arrive in Japan.—*Journal of the Chamber of Commerce*.

FEDERATED MALAY STATES ANNUAL REPORT

The report of the Resident General for the year 1907 reviewed by the *Singapore Free Press* follows:

TANJONG PAGAR SPECULATION.—From the Resident General's annual report it appears that the united revenue of the F. M. S. amounted to \$28,793,745 an excess over the previous year of \$1,570,270, of which \$1,354,592 was the gain on the realization of the Tanjong Pagar Dock shares held by the Government. This must be rather a blow for our friends in the States who rebelled against the Government investing in Tanjong Pagar. Without this windfall the normal increases would have been only \$220,000, their trade being no doubt adversely affected by the depression prevailing throughout the East.

The expenditure for the year amounted to \$20,225,993, the chief items being public works, \$1 million, railways 5½ million and personal emoluments, that is salaries 4½ million. The railway expenditure does not take into account what was spent on the Johore Railway, which is a loan to that State and amounted at the end of the year to \$7,871,129.

ASSETS OF THE STATES.—The net value of the surplus assets stand at 36 million, and includes gold securities of the value of £1,653,929; Indian paper Rs. 6,571,000 and \$2,051,700 out of the Tanjong Pagar realization. It does not include loans to planters and others, nor the loans to Pahang and Johore.

The trade was exceptionally large, due to the prosperity of preceding years and reached nearly 140 million dollars. The imports of opium decreased by 124 chests of the value of \$93,000.

TIN MINING.—The mining revenue is estimated at ten million dollars a decrease of half a million, due to lower prices of tin and stocks being held back. The output of tin was 813,636 pikul (Perak 431,000 and Selangor 273,900 pikul). The average local price was

£8528. In the London market it varied from £199½ to £119, with an average of £172 13s. 229,000 persons were engaged in the tin industry. 278,259 acres of land are alienated for tin mining.

This paragraph is of interest to Singapore, relating to a visit paid by Mr. Scrivenor, State Geologist:

In January, by the courtesy of the military authorities, he was enabled to examine some sections on Blakang Mati Island, Singapore, and there found coarse conglomerate containing pebbles of chert and of Pahang volcanic series rocks; elsewhere in Singapore he found numerous chert pebbles in conglomerate and sandstone; which lead him to the opinion that these Singapore rocks are an extension of the Tembeling series in Pahang.

RUBBER.—The land in cultivation was 261,000 acres (just about as much as is alienated for mining). Rubber holds the pride of place with 126,235 acres, coconuts following with 112,560 acres. The number of rubber estates was 287, the number of trees close on 20 millions. Says the Director of Agriculture:

"The returns of rubber exported during the year show a total of 1,198,751 pounds, as compared with 681,040 pounds in the preceding year.

"\$59,758 was paid as export duty.

"The fall in the market price of the product which occurred towards the end of the year, though causing a depreciation for the time being in the value of shares, had no material effect upon the progress of estate development. I understand that in a few instances contemplated extensions were stopped *pro tempore*, but for the most part the confidence of estate proprietors in the future of the undertaking remains unshaken by a fluctuation in values attributed to causes which can have no permanent effect upon the success of the industry. At the time of writing there is no indication of any pause or hesitation in the process of development."

The following concluding paragraphs are of interest:

RAILWAY DEVELOPMENT.—Good progress was made during the year with the construction of the Johore State Railway. It is expected that this line will be completed and open for traffic by the end of the current year, when there will be railway communication between Prai on the mainland, opposite to Penang, and Singapore Docks, the only interruption in this distance of 493 miles being the Johore Strait about three quarters of a mile in width, which will be crossed by a wagon-ferry.

Progress was also made with the Tronoh Light Railway, some 15 miles long, constructed through what is the most important tin-mining district in Perak, from Ipoh to Tronoh. A beginning was made with railway construction on the east side of the Peninsula, the construction of a line from Gemas on the Johore border to Kuala Semantan, the point in Pahang territory where the Semantan river falls into the Pahang river, a distance of 70 miles, having been started.

CONDITION OF TRADE.—The fall in the price of tin that occurred towards the end of the year was productive of inconvenience and, in some cases, hardship to many of those connected with the industry. This was especially the case as regards those who had been encouraged by the recent inflated prices to operate largely with borrowed capital on which they were paying high rates of interest. It is to be hoped that the worst of the trouble is now over and that the set back which this, the most important industry of the country, has received may be productive of good by leading, as it must, to a reduction of expenses, to the more extended introduction of labor-saving machinery and approved appliances for the extraction and treatment of the ore, and, above all, to speculative trading on the part of those less interested.

"Another important, but newer, industry, rubber growing, also experienced somewhat of a set back during the year owing to an unexpected fall of prices. In this case, too, the

trouble that has arisen will unquestionably be productive of good, in that it will lead to more care and more economical cultivation on the part of the growers. While prices were as high as they were for a time, the profits realized or anticipated were so large that the amount or rate of expenditure was a matter of secondary consideration.

"Notwithstanding these drawbacks the country is and has been throughout the year prosperous, and there need be no apprehension as of the continuance, while general conditions remain as they are, of the development and of the prosperity that has characterized these States in recent years."

PHILIPPINE FORESTS DETERIORATING IN VALUE*

Every year the forests of the Philippine Islands are deteriorating in value. The force and funds sufficient to keep them in the proper condition and preserve them for the best use of the people are lacking.

Experiments in other countries have shown that there is a minimum amount of expenditure needed to keep the countries' forests protected and cared for. If this amount is available, the forests of every district can be made a paying proposition for that district—a proposition that yearly increases in value. If less than this amount is spent, the forests through fires, misuse, ruthless cutting and other injurious causes, become less valuable year by year. Japan nets yearly two million pesos, double the sum she invests in the forests. The yearly returns from some forests, more than double the yearly investment in parts of Europe, where forestry has been so developed as to become a fine art. India secures annually a net profit of more than seven million pesos.

In Java, conditions, climatic and otherwise, are much more like those of the Philippines than are those of the far away European countries. Java, of about the same area as Luzon, has an excellent forest service, and her people are every year richer for that reason by more than P1,600,000. To get this profit, Java spends annually about P1,700,000.

The Philippines have an estimated area of 16,000,000 hectares of public forest. Some day, as the population increases, more and more of this land will be cleared for agricultural purposes. However, there is and always will be a good portion of this land more suitable to be retained as forest—this land should be set aside and put strictly on a business basis, which will make it pay a good revenue.

There are at least 6,000,000 hectares of fine Philippine forest, which could well be turned to this purpose. These lands are in the mountains, and protect the sources of the principal rivers. They shelter the irrigation water for the farms in the valley and give lumber and other necessities to the inhabitants of the locality. If they were properly cared for, so that their timber could be exported in large quantities, they would also become in a few years great revenue producing institutions like the forests of Java and Japan.

The money the Philippines have now to spend on forests is barely sufficient to keep a Bureau running to supervise the collecting of wild forest products and carry on a small amount of investigation of the natural resources of the Islands. It has been estimated that an expenditure of at least 10 centavos a hectare is needed to keep a forest from deteriorating. Java spends 64 centavos, and India 45 centavos. The Philippines spend 10-45 centavos per hectare.

Taking Java as a standard, one trained man is needed to properly look after every 90,000 hectares of forest. This means that the Philippine forests require some 66 men's attention. On the same basis of calculation, the Philippine forest service should employ 500 Filipino rangers and guards. At the minimum rate of expenditure, of 10 centavos

* Bulletin Philippine Bureau of Forestry.

a hectare, an appropriation of ₱600,000 would be the least amount required to set the forests upon a sound paying basis. As it is, the Philippines employ only 9 foresters and 25 Filipino rangers, and spend annually only about ₱110,000 on the forest system. This brings in a clear revenue of ₱100,000. Java, with less than half the available forest land, clears again more than ten times as much as this revenue according to the Philippines.

While the Philippines are too poor to pay even the 10 centavos per hectare, at least a beginning should be made to remedy the situation. Until measures are taken to correct it, the forests, one of the most valuable of all the vast resources of the Islands, will continue to deteriorate in value.

The situation is summed up briefly and aptly in the following figures, which show the relative forest areas, expenditures on forests, and revenues from forests of Germany, India, Java, Japan, and the Philippines.

Country	Available Forest Areas	Total Amount Expended	Net Revenue Gained.
	Hectares	Pesos	Pesos
Germany	2,465,000	17,000,000	15,766,000
India	19,000,000	8,532,000	7,416,000
Java	2,700,000	1,700,000	1,628,000
Japan	12,000,000	1,000,000	2,000,000
Philippines	6,000,000	110,000	100,000

*LONDON, ENGLAND, METAL MARKET

October 9, 1908.

The following are to-night's (Oct. 9th) prices of metals:—

	COPPER	£ s. d.	£ s. d.
*Tough cake and Ingot.	62 10 0	..	63 0 0
*Best Selected	62 10 0	..	63 0 0
*Electrolytic	64 10 0	..	65 10 0
*Sheets and sheathing	73 0 0	..	—
*Flat bottoms	76 0 0	..	—
STANDARD { Cash	59 2 6	..	59 7 6
{ Three Months.	60 0 0	..	60 2 6
*Copper tubes, seamless per lb.	0 0 9	..	—
*Lake	64 10 0	..	65 10 0
* Less 3½ per cent.		† Net	

ALLOYS.

BRASS: Wire	0 0 6½	..	—
“ Tubes (solid drawn)	0 0 7½	..	—
“ Sheets	0 0 6½	..	—

TIN.

English ingots, f. o. b.	133 10 0	..	134 10 0
“ bars	134 10 0	..	135 10 0
“ refined	135 10 0	..	136 10 0
Straits { Cash	133 15 0	..	134 0 0
Straits { Three months	135 5 0	..	135 10 0
Australian spot	133 15 0	..	134 5 0
Banka (in { Cash		..	—
Holland { Three months	138 3 9	..	—

LEAD.

Spanish or soft foreign	13 3 9	..	13 6 3
English pig, common	13 7 6	..	13 10 0
“ L. B.	14 0 0	..	—
“ sheet and bar lead	14 12 6	..	—
“ pipe	15 2 6	..	—
“ red	16 10 0	..	—
“ white	18 0 0	..	—
“ patent shot	16 10 0	..	—

SPELTER.

Silesian ordinary brands	19 12 6	..	19 17 6
“ special brands	20 2 6	..	20 12 6
English Swansea	20 10 0	..	21 0 0

Sheet zinc 23 0 0 .. —

ANTIMONY.

Antimony Regulus	33 0 0	..	34 0 0
“ Crude	13 15 0	..	14 5 0
“ Ore (basis 50%)	8 0 0	..	10 0 0

QUICKSILVER.

Flasks, 75 lbs. warrants 8 7 6 .. 8 10 0

MANGANESE.

Ore, c.i.f., U. K. ports.	Per unit.*	Per unit.*
1st quality, 50 per cent. and upwards	0 0 9½	—
2nd quality, 47 per cent. to 50 per cent.	0 0 8½	—
3rd quality, 40 per cent to 47 per cent.	0 0 7½	—
* Unit corresponds to 1 per cent.		

ALUMINUM.

Per ton. £70 to £75
98.99 per cent.

NICKEL.

Per ton. Per ton. 170 0 0 .. 175 0 0
98.99 per cent. guaranteed ..

PLATINUM.

Per oz. Troy, 90s. to 85s; nominal and subject to negotiation.

CURRENT NEW YORK WHOLESALE PRICES OF METALS, MINERALS, CHEMICALS, ETC.

Selected from the Engineering and Mining Journal

ABRASIVES.—	U. S. Currency.
Bort, good drill quality	carat \$ 85.00
Carborundum, grains	lb. 10-17
Corundum	“ 07-10
Emery, grain	“ 035-045
Pumice Stone, American powdered	100 lbs. 1.60-2.00
ACIDS —	
Hydrochloric 20°	lb. 1.25-1.50
Nitric, 38°	“ 4.25-4.625
Sulphuric, 66° bulk	ton 18.00
ALUMINUM, Sulphate Com'l	lb. 1.10-1.75
ANTIMONY, needle	“ 05-06
ARSENIC, white, red	“ 05-055 0.07½-0.07½
ASPHALTUM.—	
Trinidad	ton 28 00-30.00
California	“ 21.00-27.00
BLEACHING POWDER, 35%	100 lbs. 1.25-1.40
BLUE VITRIOL	lb. 5.00
BONE ASH	“ 0.02½-0.04
BORAX	“ 0.04½-0.05½
*CAPS detonating	M. 7.50
CEMENT.—	
Portland, American	500 lbs. bbl. 1.55-1.60
Foreign	“ 2.25-2.90
Rosendale	300 “ “ 85
*Green Island	375 “ “ 2.75
*Alsen	
CLAY, CHINA.—	
American common	lg. ton 8.50-9.00
Foreign	“ 10.00-17.50
*COALS.—	
Batan, at Mines	ton 3.00
Australian	“ 5.50
COPPER	lb. 1.12½-1.12½
*DYNAMITE 40%	“ .20
FELDSPAR ground best	sh. ton 10 50-15.00
FIRE BRICK, American	M. 30.00-40.00
Imported	“ 30.00-45.00
FIRE CLAY, St. Louis Mill	ton 2.50
*FUSE—Blasting	1,000 ft. 7.50

GRAPHITE—Ceylon, lump	lb. .04-10
Large lump	lb. .07-10
GYPSUM—Fertilizer	sh. ton 7.00
Powdered	sh. ton 12.00-20.00
LEAD	lb. .037
MAGNESITE—Greece, crude, 95%	lg. ton 8.00-12.00
Bricks, domes	per M. 160-200
MANGANESE, Ore, 80-85%	sh. ton 20.00-50.00
MERCURY, export flask	75 lbs. 36.00-39.00
PAINTS AND COLORS.—	
Litharge American P'w'd	lb. .06½-0.06½
Ochre, Am. Com	sh. ton 8.50-9.00
Paris green, pure, bulk	lb. .26
Turpentine, spirits, bbl.	gal. .44½-4
White lead, Am. dry	lb. .05½-0
Am. in oil	“ .06½-0.06
Zinc, white, Am. extra dry	“ .05½-0.05
PHOSPHATES, Acid	per unit .65-7
Florida hard rock	lg. ton 10.25-10.5
Land pebble 68%	“ 5.25-5.5
POTASSIUM Cyanide (98-99%)	lb. .18-19
PLATINUM	oz. 28.00
PLATINUM, Scrap	oz. 17.00
SPELTER	lb. .045-0.06
NICKEL	Small lots lb. .50-60
*POWDER, black blasting A	lb. .15
*Judson	“ .14½
Pyrite, Domestic Non-arsenical, Lump	unit .11-11½
Imported non-arsenical lump	“ .12½-13
Imported, arsenical	“ .12-12½
SALT PETER crude	100 lbs. 4.50-5.00
SILICA, Lump quartz	lg. ton 5.00-6.00
Ground quartz, ordinary	“ 13.00-15.00
Glass sand, ordinary</	

FAR EASTERN STOCKS AND QUOTATIONS

Courtesy of Messrs. Kadoorie & Co., Hongkong, for October, 1908.

STOCK.	WHEN ESTABLISHED	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	AT WORKING ACCOUNT	DATE	LAST DIVIDEND.	Approximate Yield per cent. per annum at Present Quotation.*	CLOSING QUOTATIONS.
BANKS.											
Hongkong & Shanghai Banking Corporation	1865	\$15,000,000	120,000	\$125	\$125	£1,500,000 \$14,000,000 \$250,000	\$2,005,774	30-6-08	{ Interim of £2 for first half year—@ ex 1 9 $\frac{1}{2}$ =\$21.942.	5 $\frac{1}{2}$	\$\$800 sales £80
National Bank of China, Ld.	1891	£699,475	10) 99,925	£7	£6	£4,009 \$150,000	\$10,223	31-12-07	\$2 (London 3 6) for 1903.	...	\$50
MARINE INSURANCES.											
Canton Insurance Office, Ld.	1881	\$2,500,000	10,000	\$250	\$50	£1,560,000 \$232,757 \$411,990	Nil.	31-12-07	\$14 for 1907.	8	\$175 buyers
North China Insurance Co., Ld.	1863	£150,000	10,000	£15	£5	£125,000 Tls. 150,000 Tls. 48,942	Tls. 160,512	30-6-08	Final of 7 6 making 15 - for 1907.	6	Tls. 80 buyers
Union Ins. Society of Canton, Ld.	1867	\$3,100,000	12,400	\$250	\$100	£99,000 \$302,478 \$129,695 \$727,649	\$2,506,011	31-12-07	{ Final of \$15 making \$45 for 1906, and interim of \$30 for account 1907.	5 $\frac{1}{2}$	\$785
Yangtsze Ins. Association, Ld.	1862	\$1,200,000	12,000	\$100	\$60	£1,000,000 \$199,032 \$85,157	\$591,763	31-12-07	\$12 and bonus \$3 for 1906.	9	\$167 $\frac{1}{2}$ sales
FIRE INSURANCES.											
China Fire Ins. Co., Ld.	1870	\$2,000,000	20,000	\$100	\$20	£1,000,000 \$346,097 \$13,802	\$372,432	31-12-07	\$6 and bonus \$2 for 1906.	8 $\frac{1}{2}$	\$98 buyers
Hongkong Fire Ins. Co., Ld.	1868	\$2,000,000	8,000	\$250	\$50	\$1,323,941	\$428,047	31-12-07	\$27 for 1906.	8	\$335 buyers
SHIPPING.											
China & Manila Steamship Co., Ld.	1882	\$750,000	1) 30,000	\$25	\$25	\$7,000	\$1,035	31-12-07	\$1 for 1906.	...	\$15
Douglas Steamship Co., Ld.	1883	\$1,000,000	20,000	\$50	\$50	£264,638 \$99,067 \$250,000	Nil.	30-6-08	£2 $\frac{1}{2}$ for year ended 30-6-08.	7 $\frac{1}{2}$	\$34
Hongkong, Canton & Macao Steamboat Co., Ld.	1865	\$1,200,000	80,000	\$15	\$15	£587,500 \$8,766 \$17,655	\$17,755	30-6-08	{ \$1 $\frac{1}{2}$ for first half year ending 30-6-08.	7 $\frac{1}{2}$	\$28 $\frac{1}{2}$ buyers
Indo-China Steam Navigation Co., Ld.	1882	£600,000	{ 2) 60,000 (2) 60,000	£5	£5	£10,000 £240,000	£1,375	31-12-07	{ 6 - for 1907 on pref. shares only at ex. 1 9 11 16, \$3.154	5 $\frac{1}{2}$	{ \$35 \$20
Do. (Do. (Deferred))	1903	Tls. 1,500,000	{ 20,000 { 10,000	Tls. 50	Tls. 50	Tls. 75,000	Tls. 14,510	31-12-07	Interim of Tls. 1 $\frac{1}{2}$ for % 1908.	7 $\frac{1}{2}$	Tls. 45 sellers
Shanghai Tug & Lighter Co., Ld.	1898	£ 2,000,000	2,000,000	£1	£1	£720,000 £100,000	£63,817	31-12-07	{ Final of 1 - making in all 3 - for 1907 and Interim of 1 - for % 1908 (Coupon No. 10).	6	45 -
"Shell" Transport & Trading Co., Ld.	1898	\$200,000	{ 10,000 { 10,000	\$10	\$10	£65,000 \$47,221	\$98	30-4-08	{ \$1.00 { 50 cts. for year ended 30-4-08	4 $\frac{1}{2}$	{ \$25 \$15
"Star" Ferry Co., Ld.	1900	Tls. 1,500,000	{ 12) 30,000	Tls. 50	Tls. 50	£140,000 Tls. 609,255 Tls. 100,000 Tls. 116,000 Tls. 17,142	Tls. 6,869	31-12-07	Final of Tls. 2 $\frac{1}{2}$ making Tls. 5 for 1907.	11	Tls. 45 sellers
REFINERIES.											
China Sugar Refining Co., Ld.	1878	\$2,000,000	20,000	\$100	\$100	£32,538 \$450,000 \$56,848	Dr. \$279,371	31-12-07	\$8 for year ending 31-12-06.	...	\$120
Luzon Sugar Refining Co., Ld.	1882	\$700,000	7,000	\$100	\$100	none	Dr. \$135,132	31-12-07	\$3 for 1897.	...	\$22
Perak Sugar Cultivation Co., Ld.	...	Tls. 350,000	7,000	Tls. 50	Tls. 50	Tls. 100,000	Tls. 9,173	31-8-07	Tls. 4. (8%) for year ending 31-8-06.	...	Tls. 90 sellers
MINING.											
Chinese Engineering & Mining Co., Ld.	1901	£1,000,000	1,000,000	£1	£1	£150,000 £12,289	£11,556	28-2-07	{ Interim of 1 6 (Coupon No. 10) { for % 1908.	7 $\frac{1}{2}$	Tls. 15.85 sales
Raub Australian Gold Mining Co., Ld.	1892	£200,000	{ 150,000 { 50,000	£1	18-10 £1	£4,873	Dr. £2,191	31-3-08	No. 12 of 1 =48 cents.	...	\$7
DOCKS, WHARVES AND GODOWNS.											
Fenwick (Geo.) & Co., Ld.	1889	\$450,000	z 18,000	\$25	\$25	£53,601	\$3,726	31-12-07	\$1 $\frac{1}{2}$ for year ending 31-12-06.	...	\$13
Hongkong & Kowloon Wharf & Godown Co., Ld.	1886	\$3,000,000	{ 60,000	\$50	\$50	£550,000 \$26,806 \$40,000	\$3,556	31-12-07	{ Final of \$1 $\frac{1}{2}$ making \$3 $\frac{1}{2}$ for 1907.	7	\$50
Hongkong & Whampoa Dock Co., Ld.	1866	\$2,500,000	50,000	\$50	\$50	£76,199 \$200,000	\$384,847	30-6-08	Interim of \$4 for % 1908.	8 $\frac{1}{2}$	\$93 buyers
Shanghai Dock & Engin'g Co., Ld.	1906	Tls. 5,570,000	{ 13) 55,700	Tls. 100	Tls. 100	Tls. 1,000,000 Tls. 697,257	Tls. 33,742	30-4-08	{ Final of Tls. 2 $\frac{1}{2}$ making in all Tls. 5 for year end. 30-4-08.	6 $\frac{1}{2}$	Tls. 81 sellers
Shanghai & Hongkew Wharf Co., Ld.	1902	Tls. 3,600,000	36,000	Tls. 100	Tls. 100	£75,000 Tls. 125,000	Tls. 22,626	31-12-07	Interim of Tls. 4 for % 1908.	5 $\frac{1}{2}$	Tls. 154 sales
LANDS, HOTELS AND BUILDINGS.											
Anglo-French Land Investment Co., Ld.	1906	Tls. 2,500,000	{ 3) 25,000	Tls. 100	Tls. 100	Tls. 25,000	Tls. 6,531	29-2-08	Tls. 6 for year ending 29-2-08.	6	Tls. 98 buyers
Astor House Hotel Co., Ld.	1901	\$750,000	{ 4) 30,000	\$25	\$25	\$30,000	Dr. \$4,200	30-6-08	\$2 $\frac{1}{2}$ for year ending 30-6-07.	...	\$16 sellers
Astor House Hotel, Ld. (Tientsin)	...	Tls. 200,000	4,000	Tls. 50	Tls. 50	£35,000 Tls. 10,000	Tls. 1,013	28-2-0	20 per cent. for 1906.	...	Tls. 60
Central Stores, Ld.	...	\$751,845	{ 16) 50,123	\$15	\$15	\$1,000	\$9,178	31-12-06	\$1.80 for 1906.	...	\$12 $\frac{1}{2}$ buyers
Hongkong Hotel Co., Ld.	1866	\$600,000	12,000	\$50	\$50	£648,975 \$22,000	\$14,639	31-12-08	Interim of \$3 for % 1908.	8	\$77 buyers
Hongkong Land Investment & Agency Co., Ld.	1889	\$5,000,000	50,000	\$100	\$100	£250,000	\$36,915	31-12-07	Interim of \$3 $\frac{1}{2}$ for % 1908.	7 $\frac{1}{2}$	\$94
Humphreys' Estate & Finance Co., Ld.	1887	\$1,500,000	150,000	\$10	\$10	£217,426 \$50,000	\$4,621	31-12-07	70 cents for 1907.	7 $\frac{1}{2}$	\$9 $\frac{1}{4}$ buyers

FAR EASTERN STOCKS AND QUOTATIONS—(CONTINUED.)

STOCKS	WHEN ESTABLISHED	CAPITAL	NO. OF SHARES.	VALUE.	PAID UP.	RESERVE.	AT WORKING ACCOUNT.	DATE.	LAST DIVIDEND.	Approximate Yield per cent. per annum at present Quotation.*	CLOSING QUOTATIONS.
Kowloon Land & Bldg. Co., Ltd.	1889	\$300,000	6,000	\$50	\$30	none	\$653	31-12-07	\$1 1/2 for 1907	6 1/2	\$27
Shanghai Land Investment Co., Ltd.	1888	Tls. 3,900,000	78,000	Tls. 50	Tls. 150	Tls. 1,523,045 e Tls. 170,000	Tls. 107,547	31-12-07	Interim of Tls. 3 for 1/2 1908	7	Tls. 116 buyers
Tientsin Land Investment Co., Ltd.	1902	Tls. 772,600	7,726	Tls. 100	Tls. 100	i Tls. 75,185	Tls. 811	31-12-07	Final of Tls. 3 making Tls. 6 for 1907	7	Tls. 85 buyers
West Point Bldg. Co., Ltd.	1889	\$625,000	12,500	\$50	\$50	none	\$1,541	31-12-07	Interim of \$2 for 1/2 1907	9	\$46
COTTON MILLS.											
Ewo Cotton Spinning & Weaving Co., Ltd.	1895	Tls. 1,000,000	5) 20,000	Tls. 50	Tls. 50	Tls. 150,000 45,939	Tls. 8,807	31-10-07	Tls. 2 1/2 for year ended 31-10-07	3 1/2	Tls. 67 1/2 buyers
Hongkong Cotton Spinning, Weaving & Dyeing Co., Ltd.	1901	\$1,250,000	125,000	\$10	\$10	e \$20,000	\$9,553	31-7-08	50 cents for year ending 31-7-08	4 1/2	\$10 1/2
International Cotton Manufacturing Co., Ltd.	1895	Tls. 750,000	6) 10,000	Tls. 75	Tls. 75	Tls. 150,000	Tls. 85,519	30-9-07	Tls. 6 for year end. 30-9-06 (8%)	—	Tls. 60 sellers
Laou-kung-mow Cotton Spinning & Weaving Co., Ltd.	1895	Tls. 800,000	8,000	Tls. 100	Tls. 100	none	Tls. 6,308	31-12-07	Tls. 8 for 1906	—	Tls. 75 sellers
Soy Chee Cotton Spinning Co., Ltd.	1895	Tls. 1,000,000	2,000	Tls. 500	Tls. 500	l Tls. 28,257	Tls. 50,663	31-12-06	Tls. 50 for 1906	—	Tls. 240 sales
MISCELLANEOUS.											
Bell's Asbestos Eastern Agency, Ltd.	1895	£5,377.10s	11) 8,604	12-6	12/6	£1,500	£648	31-12-07	1s. 10 1/2 d. for 1907 = \$1.037	13 1/2	\$7 1/2 sales
China-Borneo Co., Ltd.	1903	\$720,000	8) 60,000	\$12	\$12	\$25,000	Nil.	31-12-07	\$1.20 for 1907	12	\$10 buyers
China Light & Power Co., Ltd.	1901	£550,000	50,000	\$10	\$10	none	\$25,000	28-2-07	60 cents for year ending 28-2-06	—	5 1/2
Do. do. Special Shares	1907	£1,250,000	17) 50,000	\$1	\$1	—	—	—	—	8 1/2	\$9 1/2 buyers
China Provident Loan & Mortgage Co., Ltd.	1898	a \$1,250,000	7) 125,000	\$10	\$10	\$120,000	\$3,593	31-12-07	80 cents for 1907	5 1/2	\$24
Dairy Farm Co., Ltd.	1896	\$187,500	25,000	\$7 1/2	\$6	i \$100,000	\$48	31-7-08	\$1.30 for year ending 31-7-08	10	\$10 sales
Green Island Cement Co., Ltd.	1889	\$4,000,000	400,000	\$10	\$10	\$12,000	\$5,078	31-12-07	1908	—	—
H. Price & Co., Ltd.	1907	\$120,000	19) 15,000	\$10	\$10	\$5,000	\$251	31-12-07	75 cts. for 9 months endg. 31-12-07	8	\$12 buyers
Hall & Holtz, Ltd.	—	\$420,000	14) 21,000	\$20	\$20	\$186,000	\$8,957	28-2-08	\$2 for year ending 28-2-08	10	\$20 sales
Hongkong Electric Co., Ltd.	1889	\$600,000	60,000	\$10	\$10	none	\$9,321	29-2-08	\$1.00 and bonus 20 cents for year ending 29-2-08	6 1/2	\$17 1/2 sales
Hongkong Ice Co., Ltd.	1881	\$125,000	5,000	\$25	\$25	k \$120,000	\$4,578	31-12-07	Interim of \$4 for 1/2 1908	8 1/2	\$235
Hongkong Rope Manufacturing Co., Ltd.	1883	\$600,000	\$60,000	\$10	\$10	none	\$8,191	31-12-07	Interim of \$1 for 1/2 1908	8	\$2
Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat	1902	Gs. 2,500,000	25,000	Glds. 100	Glds. 100	Tls. 547,500 i Tls. 27,603	Tls. 17,127	31-10-06	Interim of Tls. 10 for third quarter	4 1/2	Tls. 700 buyers
Peak Tramways Co., Ltd.	1907	\$750,000	25,000	\$10	\$10	\$5,000	\$7,471	30-4-08	80 cents on fully paid shares & 6 cents on \$1 paid shares for year ending 30-4-08	6 1/2	\$14
Do. (New)	—	50,000	\$10	\$1	—	—	—	—	—	4 1/2	\$2
Philippine Co., Ltd.	1904	\$750,000	75,000	\$10	\$10	none	none	31-12-07	None	—	\$8
Shanghai Gas Co., Ltd.	1903	Tls. 800,000	24,000	Tls. 50	Tls. 50	d Tls. 100,000	Tls. 6,603	31-12-07	Final of Tls. 4 making Tls. 7 1/2 for 1907	6 1/2	Tls. 119 sales
Shanghai-Sumatra Tobacco Co., Ltd.	1902	Tls. 600,000	9) 30,000	Tls. 20	Tls. 20	Tls. 24,820 u Tls. 75,000	Tls. 8,493	31-10-07	Final of Tls. 9 making in all Tls. 14 for 1907	12	Tls. 116 buyers
Shanghai Waterworks Co., Ltd.	1881	£327,000	16,350	£20	£20	Tls. 190,000	Tls. 58,332	31-12-07	Final of 37/6 making in all 52/6 for 1907	—	Tls. 400
South China Morning Post, Ltd.	1903	\$150,000	6,000	\$25	\$25	none	Dr. \$90,237	31-8-07	None	—	\$25 buyers
Steam Laundry Co., Ltd.	1902	\$100,000	20,000	\$5	\$5	none	\$236	31-5-07	40 cents for year ending 30-5-08	8	\$5
Tientsin Waterworks Co., Ltd.	1901	Tls. 200,000	2,000	Tls. 100	Tls. 100	Tls. 15,259 e Tls. 4,000	Tls. 201	30-4-07	Tls. 6 1/2 for year ending 30-4-07	—	Tls. 94 buyers
Union Waterboat Co., Ltd.	1905	\$500,000	15) 50,000	\$10	\$10	none	\$111	31-12-07	50 cents for 1907	4 1/2	\$10 1/2
United Asbestos Oriental Agency, Ltd.	1896	\$100,000	10,000	\$10	\$4	\$35,000	\$1,360	31-5-07	80 cts. on 9,900 ord. shares & \$19.80 on 100 founders' shares for year ending 31-5-07	6 1/2	\$13
Watson (A. S.) & Co., Ltd.	1886	\$900,000	90,000	\$10	\$10	\$300,000 e \$25,000	\$6,438	31-12-07	Final of 3% = 30 cents making in all 60 cents for year ending 31-12-07	6	\$10
Weismann Limited	1904	\$17,500	175	\$100	\$100	\$6,700	\$13	31-7-07	10 per cent. for year endg. 31-7-07	—	\$150
William Powell, Ltd.	1901	\$150,000	15,000	\$10	\$10	none	\$3,95	30-6-08	Final of 30 cents making 80 cents for year ending June 30th 1906	—	\$5

LOANS AND DEBENTURES.	AGENTS FOR THE LOAN.	AMOUNT OF LOAN.	PAR VALUE	OUTSTANDING BONDS.	WHEN PAYABLE.	CLOSING QUOTATIONS.
China Government, 7 per cent. Silver Loan 1886 E		Tls. 767,200	Tls. 250	1914	Mar. 31st and Sept. 30th each year until Mar. 31st, 1917	par
Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 f	Hongkong & Shanghai Banking Corporation.	\$500,000	\$500	§ all	Half yearly, June 30th and December 31st	par
Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902		Tls. 543,900	Tls. 100	—	Half yearly, June 30th and December 31st	Tls. 103 1/2
Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903		Tls. 500,000	Tls. 100	—	Half yearly, January 1st and July 1st	102 1/2
Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 f		£500,000	£1	£431,960	Half yearly, June 30th and December 31st	par
International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901	Russo Chinese Bank	Tls. 500,000	Tls. 100	II	Half yearly, March 31st and Sept. 30th	Tls. 97 1/2
China Light and Power Co., Ltd. 6% Debentures of 1907 ***		\$500,000	\$100	—	Half yearly, June 30th and December 31st	par

a Authorized capital \$2,000,000.

b Building Reserve Account.

c Capital Reserve Fund.

d Depreciation Fund.

e Equalization of Dividend Fund.

f Exchange and Investment Fluctuation Account.

g Gold Reserve Fund

h Exchange Reserve Account.

i Insurance Fund.

j Reinsurance Fund.

k Contingencies Account.

l Legal Reserve Fund.

m Authorized Capital

n Sinking Fund.

o Raw Sugar Reserve Account.

p Premium on New Issue.

q Boiler Repairs and Renewals Account.

r Repairs and Renewals Account.

s Silver Reserve Fund.

t Depreciation and Repair Account.

u Underwriting Suspense Account.

v Special account.

w Special Works Fund.

x Extra Reserve Fund.

ADDITIONAL SHANGHAI SHARE QUOTATIONS

STOCK	CLOSING QUOTATIONS	HIGHEST AND LOWEST PRICES DURING THE WEEK	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	LAST DIVIDEND	WHEN PAID
Oriental Consolidated Mining Co., Ltd.	27s. 6d.		G. \$5,000,000	500,000 G.	\$10 G.	\$10	none	Final of Gold cents 50 making gold 10 for year ended 30th June 1907.	Sept. 1908
Kiang pei-ting Coal & Iron Mine Co., Ltd.	Tls. 50		Tls. 500,000	5,000 Tls. 100	Tls. 50	—	—	First year.	—
Vulcan Iron Works, Limited	Tls. 400		Tls. 500,000	1,000 Tls. 500	Tls. 500	—	—	Tls. 50 for year ended 31.8.06.	Nov. 1, 1906
Yaugtsze Wharf & Godown Co., Limited	Tls. 125 nominal		Tls. 250,000	2,500 Tls. 100	Tls. 100	Tls.	50,000	Tls. 18 for 1907.	April 16, 1908
Wei-hai-wei Land & Building Co., Limited	Tls. 10 nominal		Tls. 91,850	3,674 Tls. 25	Tls. 25	—	—	—	—
Union Estate & Investment Co., Limited	Y. 105 sales		Y. 1,000,000	10,000 Y. 100	Y. 100	—	—	First year.	—
Grand Hotel, Limited	Y. 100 sellers		Y. 500,000	5,000 Y. 100	Y. 100	—	—	Interim Y. 5 for 1/2 year.	Dec. 31, 1907
Hotel des Colonies Company, Limited	Tls. 9 sellers		Tls. 112,500	9,000 Tls. 12½	Tls. 12½	Tls.	29,783	6% for 1907.	May 29, 1908
Kalee, Limited	\$100 nominal		\$100,000	4,000 \$100	\$100	—	—	\$5 for 1907	May 22, 1908
Anglo-German Brewing Co., Limited	\$85 buyers		\$100,000	4,000 \$100	\$100	none	—	\$7 for 1907.	Mar. 12, 1908
Butler Tile Works, Limited	Tls. 50 nominal		Tls. 60,000	1,200 Tls. 50	Tls. 50	—	—	Tls. 3 for year ending 31.3.07.	May 29, 1907
Major Bros., Limited	Tls. 40 sellers		Tls. 300,000	6,000 Tls. 50	Tls. 50	—	—	—	—
Oriental Ice Company, Limited	Tls. 50		Tls. 130,000	2,600 Tls. 50	Tls. 50	—	—	First year.	—
Scharffs Oil and Bone Mills, Ltd.	Tls. 50		Tls. 200,000	4,000 Tls. 50	Tls. 50	—	—	First year.	—
Shanghai Ice Company, Limited	Tls. 13 sales		Tls. 200,000	8,000 Tls. 25	—	—	—	3% for 1907.	Mar. 14, 1908
Shanghai Oil Co., Limited	Tls. 25		Tls. 175,000	7,000 Tls. 25	Tls. 25	—	—	First year.	—
Campbell, Moore & Co., Limited	\$10 buyers		\$12,000	1,200 \$10	\$10	—	\$9,000	\$3 for 1905.	Apr. 2, 1906
Dunning & Company, Limited	\$50 sellers		\$100,000	2,000 \$50	\$50	—	—	\$5 year ending 28.2.08.	Apr. 15, 1908
J. Llewellyn & Co., Limited	\$50 buyers		\$72,000	1,200 \$60	\$60	—	—	\$6 for 1907.	May 16, 1908
Lane, Crawford & Company	\$137½ sales	137½	\$250,000	2,500 \$100	\$100	—	—	Final of 7% making 14% for 1907.	May 25, 1908
Mondon (E. L.) Limited	Tls. 6 buyers		Tls. 225,000	9,000 Tls. 25	Tls. 25	none	—	—	—
S. Moutrie & Company, Limited	\$48 sellers		\$250,000	5,000 \$50	\$50	—	—	\$4 for year ended March 31, 1908.	June 18, 1908
Weeks & Company, Limited	\$22 buyers		\$400,000	20,000 \$20	\$20	—	\$25,000	10% for year ended 28.2.08.	May 30, 1908
Dominion Rubber Co., Limited	Tls. 4		Tls. 225,000	22,500 Tls. 10	Tls. 4	—	—	First year.	—
Kalumpong Rubber Co., Ltd.	Tls. 42 sellers		Tls. 700,000	14,000 Tls. 50	Tls. 50	**	Tls. 11,844.48	—	—
Senawang Rubber Estates Company, Limited	Tls. 100		Tls. 250,000	2,500 Tls. 100	Tls. 100	—	—	—	—
Senawang Rubber Estates Company, New	Tls. 75		Tls. 100	Tel. 100 Tls. 75	—	—	—	—	—
Tebong Rubber and Tapioca Estate, Limited	20s.		£76,000	76,000 £1	£1	—	—	—	—
Eastern Fibre Co., Limited	Tls. 10 nominal		Tls. 300,000	30,000 Tls. 10	Tls. 10	—	—	—	—
Shanghai Mercury, Limited	Tls. 50 buyers		Tls. 105,500	2,100 Tls. 50	Tls. 50	—	—	Final of 6% making 10% for year ended 30.4.08.	June 29, 1908
Shanghai Mutual Telephone Co., Limited	Tls. 57 buyers	57½	Tls. 675,000	13,500 Tls. 50	Tls. 50	—	—	Tls. 3 for 1907.	June 28, 1908
China Export Import & Lumber Company, Limited	Tls. 92½ nominal		Tls. 350,000	500 Tls. 100	Tls. 50	—	—	10 p. c. for year ending 29.2.08.	May 1, 1908
China Printing Co., Limited	Tls. 50		Tls. 750,000	1,500 Tls. 50	Tls. 50	—	—	80 cents for 1907.	Jan. 30, 1908
Dallas Horse Repository Co., Ltd.	Tls. 25 nominal		Tls. 250,000	5,000 Tls. 50	Tls. 50	—	—	{ 10% = yen 2½ for year ending }	—
Hirano Mineral Water Co., Ltd.	Y. 15 sales		Y. 125,000	5,000 Y. 25	Y. 25	—	—	{ 30th Sept. 07. }	Nov. 21, 1907
E. E. Porter & Co., Limited	\$50		\$100,000	2,000 \$50	\$50	—	—	\$6 for 1907.	Apr. 22, 1908
Shanghai Electric & Asbestos Company, Limited	\$23 sales		\$125,000	5,000 \$25	\$25	—	—	Final of 4% making 8% for 1907.	May 29, 1908
Shanghai Electric Construction Company, Limited	£11 buyers	£11	£300,000	30,000 £10	£10	—	—	First year.	—

DEBENTURES

LOANS	PRICE—PLUS ACCRUED INTEREST	AMOUNT OF LOAN	OUTSTANDING	NOMINAL VALUE	RATE OF INTEREST	WHEN PAYABLE
Shanghai Municipal Debentures	1892 Tls. 92½	Tls. 50,000	Tls. 45,400	Tls. 100	5 %	June & Dec.
do	1893 " 96	" 125,000	" 32,000	" 100	5½ %	Do
do	1894 " 104	" 105,000	" 60,000	" 100	6 %	Do
do	1895 " 92½	" 115,000	" 32,600	" 100	5 %	Do
do	1896 " 92½	" 140,000	" 181,800	" 100	5 %	Do
do	1897 " 92½	" 268,800	" 268,400	" 100	5 %	Do
do	1898 " 104	" 300,000	" 60,000	" 100	6 %	Do
do	1899 " 96	" 33,900	" 31,700	" 100	5½ %	Do
do	1900 " 104	" 250,000	" 200,000	" 100	6 %	Do
do	1901 " 104	" 150,000	" 150,000	" 100	6 %	Do
do	1902 " 104	" 490,500	" 490,500	" 100	6 %	Do
do	1903 " 101	" 214,500	" 214,500	" 100	6 %	Do
do	1904 " 104	" 320,000	" 320,000	" 100	6 %	Do
do	1905 " 104	" 767,200	" 354,400	" 250	7 %	Mar. & Sept
Chinese Imperial Government Loan	1886 E 250	" 250,000	" 250,000	" 100	6 %	May & Nov.
Shanghai Land Investment Co., Debentures	1890 " 103	" 250,000	" 250,000	" 100	5½ %	June & Dec.
do	1892 " 96	" 250,000	" 250,000	" 100	5 %	Mar. & Sept.
do	1894 " 103	" 250,000	" 250,000	" 100	6 %	June & Dec.
do	1896 " 92½	" 250,000	" 250,000	" 130	5 %	June & Dec.
do	1900 " 103	" 250,000	" 250,000	" 100	6 %	April & Oct.
do	1901 " 103	" 250,000	" 250,000	" 100	6 %	June & Dec.
do	1902 " 103	" 400,000	" 400,000	" 100	6 %	May & Nov.
do	1905 " 103	" 250,000	" 250,000	" 100	6 %	June & Dec.
Shanghai Waterworks Co., Debentures	1894 " 103	" 100,000	" 100,000	" 100	6 %	Mar. & Sept.
do	1896 " 92½	" 100,000	" 100,000	" 100	5 %	June & Dec.
do	1899 " 103	" 50,000	" 50,000	" 100	6 %	Mar. & Sept.
do	1900 " 103	" 100,000	" 100,000	" 100	6 %	Do
do	1902 " 103	" 100,000	" 100,000	" 100	6 %	Do
do	1903 " 103	" 100,000	" 100,000	" 100	6 %	June & Dec.
Perak Sugar Cultivation Co., Debentures	1902 " 101	" 200,000	" 200,000	" 100	7 %	April & Oct.
Shanghai Gas Co., Debentures	1897 " 92½	" 100,000	" 100,000	" 100	5 %	Do
do	1899 " 103	" 1,000,000	" 100,000	" 100	6 %	May & Nov.
do	1900 " 103	" 2,000,000	" 200,000	" 100	6 %	June & Dec.
Shanghai and Hongkew Wharf Co., Debentures	1902 " 103	" 799,800	" 799,800	" 100	6 %	Do
Astor House Co., Debentures	1902 Sh. 102½	" 500,000	" 500,000	" 100	7 %	Do
British Municipal Council, Hankow	1901 Sh. 105	H'kow Tls 100,000	H'kow Tls 100,000	" 100	7 %	June & Dec.
Shanghai Club Debentures						

SINGAPORE SHARE QUOTATIONS

(COURTESY MESSRS. FRASER & CO., BROKERS, SINGAPORE, OCTOBER, 1908)

YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, SEPTEMBER, 1908.

STOCKS.	CAPITAL.	NO. OF SHARES.	ISSUE VALUE.	AMOUNT PAID UP.	RESERVE FUND.	AT WORKING ACCOUNT OR CARRIED FORWARD.	DATE.	LAST DIVIDEND.	FOR TERM.	CLOSING QUOTATION.
Brett & Co., Ltd.	-Y- 28,000	2,800	-Y- 10	-Y- 10						
Club Hotel, Ltd.	185,000	1,850	100	100	3,000	-Y- 768.96	31-3-08	7%	for 1 year	70 Nominal
Grand Hotel, Ltd.	500,000	5,000	100	100	10,000		30-6-08	4%	for $\frac{1}{2}$ year	100 Nominal
Helm Bros., Ltd.	186,000	3,720	50	50	25,000	-Y- 1,682.93	31-12-07	20%	for 1 year	80 Nominal
Langfeldt & Co., Ltd.	150,000	1,500	100	100		Dr. 4,103.41	30-6-08		for $\frac{1}{2}$ year	55 Buyers
C. Nickel & Co., Ltd.	† 500,000	20,000	25	25		1,729.20	31-10-07	20%	for 1 year	41 Sellers
Yokohama Engine and Iron Works	* 500,000	10,000	50	50	50,000	-Y- 29,421.19	31-5-08	10%	for 1 year	75 Sellers
Oriental Hotel, Ltd., Ordinary		3,000	50	50			31-8-06	15%	for 1 year	50 Nominal
Oriental Hotel Ltd., Preference		2,000	50	50	62,285.42			8%	for 1 year	50 Nominal
The Union Estate and Investment Co., Ltd.	‡ 1,000,000	10,000	100	100	3,259.65	1,774.45	30-9-07	7%	9 mos.	100 Nominal

† 285,000 unissued.
‡ 475,000 unissued.

*-Y- 390,000 issued
110,000 unissued.

DEBENTURE LOANS.	AMOUNT OF LOAN.	FACE VALUE OF DEBENTURES.	RATE OF INTEREST.	INTEREST PAYABLE.	CLOSING QUOTATION.
Brett & Company, Limited	11,500.00	100.00	7%	1 June and 1 Dec.	95 Sales.
Yokohama United Club	250,000.00	100.00	7%	30 June and 31 Dec.	100 Sales.
C Nickel & Company, Limited	50,000.00	100.00	8%	1 May and 1 Nov.	110 Sellers.
Oriental Hotel, Limited	250,000.00	100.00	8%	1 April and 1 Oct.	100 Sellers.
Union Estate and Investment Co., Limited	250,000.00	100.00	6%	30 June and 31 Dec.	90 Sellers.

JAPANESE STOCKS.	FACE VALUE.	AMOUNT PAID UP.	LAST DIVIDEND.	DIVIDEND PAYABLE.	CLOSING QUOTATION.
Bonds & Debentures.					
Exchequer Bonds 1st issue	-Y-100	-Y-100	5%	June and Dec.	-Y-101.00
Exchequer Bonds 2nd issue	100	100	5%	March and Sept.	" 96.30
Exchequer Bonds 3rd issue	100	100	5%	March and Sept.	" 95.30
Consolidated Bonds (Seiri)	100	100	5%	June and Dec.	" 85.40
War Bonds (Gunji)	100	100	5%	June and Dec.	" 85.40
Imperial 5% Bonds	100	100	5%	March and Sept.	" 83.70
Special 5% Bonds (issued 1906)	100	100	5%	June and Dec.	" 88.00
Yokohama Water Works Bonds	100	100	6%	June and Dec.	" 94.50
Yokohama City Public Loan Bonds	100	100	6%	March and Sept.	" 93.50
Osaka City Harbour Construction Bonds	100	100	6%	June and Dec.	" 90.00
Osaka City Public Loan Bonds	100	100	6%	June and Dec.	" 95.00
Kawasaki Dock Yards Co.'s Debentures	100	100	7%	June and Dec.	" 95.00
Tokyo Race Associations	500	500	30%	June and Dec.	" 250.00
Railways & Electric Trams.					
Tokyo Railway Company Limited	50	50	7%	June and Dec.	" 61.35
Yokohama Electric Tramway Company, Limited	50	50	6%	July and Jan.	" 45.00
Keihin Electric Tramway Company, Limited	50	50	10%	June and Dec.	" 75.00
Southern Manchurian Railway Co., Ltd.	100	20	6%	June and Dec.	" 26.00
Hanshin Electric Tramway Co., Ltd.	50	50	12%	May and Nov.	" 103.00
Cotton Spinnings.					
Kanegafuchi Cotton Spinning Company, Limited	50	50	16%	July and Jan.	" 86.40
Fuji Gassed-Yarn Company, Limited	50	50	18%	July and Jan.	" 82.55
Tokyo Cotton Spinning Company, Limited	50	50	8%	July and Jan.	" 34.00
Imperial Hemp Weaving Company, Limited	50	50	12%	July and Jan.	" 54.50
Nissin Bōsiki Kabushiki Kaisha	50	12½	—	—	" 8.30
Sugar & Beer Cos.					
Dai-nippon Sugar Refinery Company, Limited	50	50	15%	May and Nov.	" 75.85
Ensuiko Sugar Refinery Company, Limited	50	15	20%	June and Dec.	" 26.80
Dai-nippon Beer Company, Limited	50	50	15%	July and Jan.	" 79.00
Kirin Brewery Company, Limited	50	50	8%	July and Jan.	" 55.00
Docks & Steamships.					
Yokohama Dock Company Limited	50	33	12%	June and Dec.	" 52.50
Uruga Dock Company, Limited	50	50	—	July and Jan.	" 10.00
Kawasaki Dockyard Company, Limited	50	50	12½%	Feb. and Aug.	" 50.00
Nippon Yusen Kaisha	50	50	12½%	May and Nov.	" 85.50
Hokkaido Tanco S. S. Company, Limited	50	50	14%	July and Jan.	" 92.80
Miscellaneous.					
Tokyo Electric Light Company, Limited	50	50	10%	June and Dec.	" 72.00
Tokyo Gas Company, Limited	50	50	13%	July and Jan.	" 84.00
Yokohama Union Electric Light Company, Limited	50	50	14%	July and Jan.	" 74.50
Fuji Paper Mills	50	50	6%	June and Dec.	" 36.00
Otaru Timber Company, Limited	50	50	—	March and Sept.	" 21.00
Hoder Petroleum Company, Limited	50	50	36%	April and Oct.	" 127.00
Tokyo Rope Manufacturing Company, Limited	50	50	20%	June and Dec.	" 87.00
Japan Horse Improvement Company, Limited	50	50	15%	March and Sept.	" 15.00
Tokyo Stock Exchange Company	50	50	10%	June and Dec.	" 139.45
Osaka Electric Light Company, Limited	50	50	15%	July and Jan.	" 124.00
Kobe Electric Light Company, Limited	50	50	14%	July and Jan.	" 80.00

BANGKOK QUOTATIONS

(COURTESY MESSRS. EDWARDS & CO., BANGKOK, SIAM.)

NAME.	BUYERS.	SELLERS.	QUOTATION.	ESTABLISHED.	CAPITAL.	NO. OF SHARES.	ISSUE VALUE.	AMOUNT PAID UP.	RESERVE FUND	LAST DIVIDEND	WHEN PAID OR PAYABLE.
Siam Electricity Co., Ltd.	Tes. —	Tes. 505	Tes. 505	1901	£ 300,000	30,000	£ 10	£ 300,000	Tes. 418,174.31	12% & 12½ T. bon.	Feb. 29, 1908
Paknam Railway Co., Ltd.	„ 200	„ —	„ 210	1893	Tes. 400,000	5,000	Tes. 80	Tes. 400,000	„ 80,000	6% & 2 Tel. bonus for $\frac{1}{2}$ year ending	Dec. 31, 1906
Siam Tramway Co., Ltd.	„ 160	„ 168	„ 168	1905	„ 1,450,000	6250 Shares	„ 100	„ 1,450,000	—	2%	Mar. 31, 1907
Meklong Railway Co., Ltd.	„ 124	„ 127	„ 129	July 12, 1907	„ 2,230,000	1000 P. Shares	„ 100	„ 2,230,000	17,316.22	2½%	Sept. 30, 1907
Bangkok Manufact. Co., Ltd.	„ 145	„ —	„ 160	1898	„ 400,000	4,000	„ 100	„ 400,000	—	None	June 30, 1907
Howarth Erskine, Ltd.	„ —	„ —	„ 235	1905	\$ 2,400,000	24,000	\$ 100	\$ 2,400,000	\$ 40,000	7½%	Dec. 31, 1907
Bangkok Dock Co., Ltd.	„ —	„ —	„ 305	1865	Tes. 666,666	4,000	Tes. 1663	Tes. 666,666	Tes. 270,000	12½% & 2½ Bonus	Dec. 31, 1907
Siam Steam Packet Co.	„ —	„ 100	„ 100	1898	„ 131,250	2,625	„ 50	„ 131,250	„ 36,000	14%	Dec. 31, 1907
Siam Commercial Bank	„ 1,350	„ 1,450	„ 1,450	1906	„ 3,000,000	3,000	„ 1,000	„ 3,000,000	„ 140,000	5%	Mar. 31, 1908
Menam Motor Boat Co.	„ 130	„ —	„ 140	1905	„ 200,000	2,000	„ 100	„ 125,000	—	5%	July 31, 1907
Jenderata Rubber Co.	„ 65	„ 70	„ 70	1906	£ 40,000	4,000	£ 10	£ 3, per Share	—		



His Excellency, Yuan Shih Kai,

President of the Mai-wu-pu (Board of Foreign Affairs); Member of the Grand Council; Member of the Commission of Constitutional Reform; Member of the Government Council; One of the Foremost Officials of China; Organizer of China's Modern Army.—Above is Reproduction of Photograph of Him as He Appears in the Uniform of His Rank as Commander-in-Chief of the Northern Army.—This Rank Is Held Ex-Officio by the Viceroy of Chihli.